



State of Utah

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Department of  
Environmental Quality

Alan Matheson  
*Executive Director*

DIVISION OF WASTE MANAGEMENT  
AND RADIATION CONTROL  
Scott T. Anderson  
*Director*

December 28, 2018

Brian Bremner  
P O Box 77  
Panguitch, UT 84759

Subject: Class I Landfill Permit Approval

Dear Mr. Bremner:

The 30-day public comment period for the Johns Valley Class I draft permit began on September 21, 2018. The announcement of the public comment period appeared in the Wayne and Garfield County Insider. No comments were received. Accordingly, no changes were made to the draft permit.

Enclosed is Permit #9205R2, which expires on December 21, 2028.

Representatives of the Division of Waste Management and Radiation Control and/or representatives of the Southwest Utah District Health Department will conduct periodic inspections. The inspections are to assess compliance with the conditions of the Permit and the Solid Waste Permitting and Management Rules.

If you have any questions, please contact Rob Powers at 801-536-0255.

Sincerely,

Scott T. Anderson, Director  
Division of Waste Management and Radiation Control

Enclosure: Permit (DSHW-2018-007561)  
Attachment 1 Operations Plan (DSHW-2018-007501)  
Attachment 2 Landfill Design (DSHW-2018-007521)  
Attachment 3 Inspections (DSHW-2018-007522)  
Attachment 4 Closure (DSHW-2018-007523)

(Over)

DSHW-2018-012101

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- c: Dr. David Blodgett, Health Officer, Southwest Utah Public Health Department
- Gary House, Deputy Director, Southwest Utah Public Health Department
- Jeremy Roberts, Environmental Health Director, Southwest Utah Public Health Department
- Paul Wright, P.E., DEQ District Engineer
- Leland Pollock, Garfield County Commissioner

**DIVISION OF WASTE MANAGEMENT  
AND RADIATION CONTROL  
SOLID WASTE LANDFILL PERMIT**

**JOHNS VALLEY  
CLASS I LANDFILL**

Pursuant to the provision of the Utah Solid and Hazardous Waste Act, Title 19, Chapter 6, Part 1, Utah Code Annotated (Utah Code Ann.) (the Act) and the Utah Solid Waste Permitting and Management Rules, R315-301 through 320 of the Utah Administrative Code adopted thereunder, a Permit is issued to:

Garfield County as owner and operator,

to own, construct, and operate the Johns Valley Class I landfill located in 1/4 section southwest 3/4 of Section 36., Township 34 south, Range 3 west, Salt Lake Base and Meridian, Garfield County, Utah as shown in the Permit Renewal Application that was determined complete on September 11, 2018

The Permittee is subject to the requirements of R315-301 through 320 of the Utah Administrative Code and the requirements set forth herein.

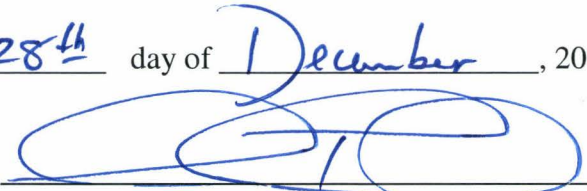
All references to R315-301 through 320 of the Utah Administrative Code are to regulations that are in effect on the date that this permit becomes effective.

This Permit shall become effective December 21, 2018.

This Permit shall expire at midnight December 20, 2028.

Closure Cost Revision Date: December 21, 2023.

Signed this 28<sup>th</sup> day of December, 2018.

  
\_\_\_\_\_  
Scott T. Anderson, Director  
Division of Waste Management and Radiation Control

## FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME: Johns Valley Class I Landfill  
OWNER NAME: Garfield County  
OWNER ADDRESS: P O Box 77 Panguitch, Utah 84759  
OWNER PHONE NO.: 435-676-1119  
TYPE OF PERMIT: Class I Landfill  
PERMIT NUMBER: 9205R2  
PERMIT HISTORY: Permit renewed December 28, 2018

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The term, "Permit," as used in this document is defined in R315-301-2(55) of the Utah Administrative Code. Director as used throughout this permit refers to the Director of the Division of Solid and Hazardous Waste.

The Permit renewal application for Johns Valley Class I landfill was deemed complete on the date shown on the signature page of this Permit. This Permit consists of the signature page, Facility Owner/Operator Information section, sections I through V, and all attachments to this Permit.

The facility as described in this Permit consists of a Class I lined disposal cell, and a separate construction and demolition waste cell east of the Class I waste cell.

Compliance with this Permit does not constitute a defense to actions brought under any other local, state, or federal laws. This Permit does not exempt the Permittee from obtaining any other local, state or federal permits or approvals required for the facility operation.

The issuance of this Permit does not convey any property rights, other than the rights inherent in this Permit, in either real or personal property, or any exclusive privileges other than those inherent in this Permit. Nor does this Permit authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations, including zoning ordinances.

The provisions of this Permit are severable. If any provision of this Permit is held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this Permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

By this Permit, the Permittee is subject to the following conditions.

## PERMIT REQUIREMENTS

### I. GENERAL COMPLIANCE RESPONSIBILITIES

#### I.A. General Operation

I.A.1. The Permittee shall operate the landfill in accordance with all applicable requirements of R315-301 through 320 of the Utah Administrative Code, for a Class I, landfill, that are in effect as of the date of this Permit unless otherwise noted in this Permit. Any permit noncompliance or noncompliance with any applicable portions of Utah Code Ann. § 19-6-101 through 123 and applicable portions of R315-301 through 320 of the Utah Administrative Code constitutes a violation of the Permit or applicable statute or rule and is grounds for appropriate enforcement action, permit revocation, modification, or denial of a permit renewal application.

#### I.B. Acceptable Waste

I.B.1. This Permit is for the disposal of non-hazardous solid waste that may include:

I.B.1.a Municipal solid waste as defined by UAC R315-301-2(47) of the Utah Administrative Code;

I.B.1.b Commercial solid waste as defined by UAC R315-302-2(14) of the Utah Administrative Code;

I.B.1.c Industrial solid waste as defined by UAC R315-302-2(35) of the Utah Administrative Code;

I.B.1.d Construction waste and demolition waste as defined by 19-6-102(4), Utah Code Annotated;

I.B.1.e Special waste as allowed by R315-315 of the Utah Administrative Code and authorized in section III-I of this Permit and limited by this section;

I.B.1.f Conditionally exempt small quantity generator hazardous waste as specified in R315-303-4(7)(a)(i)(B) of the Utah Administrative Code; and

I.B.1.g Acceptable wastes are restricted to wastes that are received solely under contracts with local governments, within Utah, for waste generated within the boundaries of the local government. Each contract shall be approved by the Director prior to acceptance of the waste at the landfill.

#### I.C. Prohibited Waste

I.C.1. Hazardous waste as defined by R315-1 and R315-2 of the Utah Administrative Code, except as allowed in permit condition I-B6 (Acceptable Waste) above;

- I.C.2. Containers larger than household size (five gallons) holding any liquid; non-containerized material containing free liquids; or any waste containing free liquids in containers larger than five gallons; or
- I.C.3. PCB's as defined by R315-301-2 of the Utah Administrative Code, except as allowed in Section I-B (Acceptable Waste) of this Permit. (do not use this for facilities that have TSCA approval for PCBs unless the facility has PCB and non-PCB cells) If the facility has a TSCA permit put any restrictions on the PCB waste also any wastes that may be excluded from the PCB cell
- I.C.4. Regulated asbestos-containing material.
- I.C.5. Any prohibited waste received and accepted for treatment, storage, or disposal at the facility shall constitute a violation of this Permit, of Utah Code Ann. § 19-6-101 through 123 and of R315-301 through 320 of the Utah Administrative Code.
- I.D. Inspections and Inspection Access
- I.D.1. The Permittee shall allow the Director or an authorized representative, or representatives from the Southwest Utah Health Department, to enter at reasonable times and:
  - I.D.1.a Inspect the landfill or other premises, practices or operations regulated or required under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;
  - I.D.1.b Have access to and copy any records required to be kept under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;
  - I.D.1.c Inspect any loads of waste, treatment facilities or processes, pollution management facilities or processes, or control facilities or processes required under this Permit or regulated under R315-301 through 320 of the Utah Administrative Code; and
  - I.D.1.d Create a record of any inspection by photographic, video, electronic, or any other reasonable means.
- I.E. Noncompliance
- I.E.1. If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under R315-301 through 320 of the Utah Administrative Code may be or is being violated, the Permittee shall promptly make corrections to the operation or other activities to bring the facility into compliance with all permit conditions or rules.
- I.E.2. In the event of noncompliance with any permit condition or violation of an applicable rule, the Permittee shall promptly take any action reasonably necessary to correct the noncompliance or violation and mitigate any risk to the human health or the environment. Actions may include eliminating the activity causing the noncompliance or violation and containment of any waste or contamination using barriers or access restrictions, placing of warning signs, or permanently closing areas of the facility.

- I.E.3. The Permittee shall:
- I.E.3.a Document the noncompliance or violation in the daily operating record on the day the event occurred or the day it was discovered;
  - I.E.3.b Notify the Director by telephone within 24 hours, or the next business day following documentation of the event; and
  - I.E.3.c Give written notice of the noncompliance or violation and measures taken to protect human health and the environment within seven days after the telephonic notification to the Director.
- I.E.4. Within thirty days after the documentation of the event, the Permittee shall submit to the Director a written report describing the nature and extent of the noncompliance or violation and the remedial measures taken or to be taken to protect human health and the environment and to eliminate the noncompliance or violation. Upon receipt and review of the assessment report, the Director may order the Permittee to perform appropriate remedial measures, including development of a site remediation plan for approval by the Director.
- I.E.5. In an enforcement action, the Permittee may not claim as a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with R315-301 through 320 of the Utah Administrative Code and this Permit.
- I.F. Revocation
- I.F.1. This Permit is subject to revocation if the Permittee fails to comply with any condition of the Permit. The Director will notify the Permittee in writing prior to any proposed revocation action and such action shall be subject to all applicable hearing procedures established under R305-7 of the Utah Administrative Code and the Utah Administrative Procedures Act.
- I.G. Attachment Incorporation
- I.G.1. Attachments to the Permit Application are incorporated by reference into this Permit and are enforceable conditions of this Permit, as are documents incorporated by reference into the attachments. Language in this Permit supersedes any conflicting language in the attachments or documents incorporated into the attachments.
- I.H. DESIGN AND CONSTRUCTION
- I.H.1. A. Design and Construction
- I.H.1.a The Permittee shall construct any landfill cell, sub-cell, run-on diversion system, runoff containment system, waste treatment facility, leachate handling system, or final cover with the design in accordance with Attachment #2 and in accordance with the R315-301 thru 320 of the Utah Administrative Code.

- I.H.1.b Prior to construction of any landfill cell, sub-cell, engineered control system, waste treatment facility, leachate handling system, or final cover, the Permittee shall submit construction design drawings and a Construction Quality Control and Construction Quality Assurance (CQC/CQA) Plan to the Director for approval. Approved design drawings and CQA/CQC plans will be incorporated into this permit through modification. Buildings do not require approval. The Permittee shall construct any landfill cell, sub-cell, cell liner, engineered control system, waste treatment facility, leachate handling system, and final cover in accordance with the design drawings and CQC/CQA Plans submitted to and approved by the Director.
- I.H.1.c Subsequent to construction, the Permittee shall notify the Director of completion of construction of any landfill cell, sub-cell, engineered control system, waste treatment facility, or final cover. Landfill cells may not be used for treatment or disposal of waste until all CQC/CQA documents and construction-related documents, including as-built drawings, are approved by the Director and this permit has been modified to reflect these changes. The Permittee shall submit as-built drawings for each construction event that are stamped and approved by an engineer registered in the State of Utah.
- I.H.1.d The Permittee shall notify the Director of any proposed incremental closure, placement of any part of the final cover, or placement of the full final cover. Design approval must be received from the Director and this permit modified prior to construction. The design shall be accompanied by a CQC/CQA Plan, for each construction season where incremental or final closure is performed.
- I.H.1.e A qualified party, independent of the owner and the construction contractor, shall perform the quality assurance function on liner components, cover components, and other testing as required by the approved CQC/CQA Plan. The results shall be submitted to the Director as part of the as-built drawings.
- I.H.1.f All engineering drawings submitted to the Director shall be stamped and approved by a professional engineer with a current registration in Utah.
- I.H.1.g If ground water is encountered during excavation of the landfill, the Director shall be notified immediately, and a contingency plan implemented or alternative construction design developed and submitted for approval.
- I.H.2. Run-On Control
- I.H.2.a The Permittee shall construct drainage channels and diversions as specified in the Permit Application and shall maintain them at all times to effectively prevent runoff from the surrounding area from entering the landfill.

## **II. LANDFILL OPERATION**

### **II.A. Operations Plan**



- II.A.1. The Permittee shall keep the Operations Plan included in the Attachment#1 on site at the landfill or at the location designated in section III-H of this Permit. The Permittee shall operate the landfill in accordance with the operations plan. If necessary, the Permittee may modify the Operations Plan, provided that the modification meets all of the requirements of R315-301 through 320 of the Utah Administrative Code, is as protective of human health and the environment as the Operations Plan approved as part of this Permit, and is approved by the Director as a minor modification under R315-311-2(1)(a)(xiii) of the Utah Administrative Code. The Permittee shall note any modification to the Operations Plan in the daily operating record.
- II.A.2. The Permittee shall submit any modification to the Operations Plan to the Director for approval.
- II.A.2.a Security
- II.A.2.a.(i) The Permittee shall operate the Landfill so that unauthorized entry to the facility is restricted. The Permittee shall:
- II.A.2.a.i.A Lock all facility gates and other access routes during the time the landfill is closed.
- II.A.2.a.i.B Have at least one person on site employed by the Permittee at the landfill during all hours that the landfill is open.
- II.A.2.a.i.C Construct all fencing and any other access controls as shown in the Permit Application to prevent access by persons or livestock by other routes.
- II.B. Training
- II.B.1. The Permittee shall provide training for on-site personnel in landfill operation, including waste load inspection, hazardous waste identification, and personal safety and protection.
- II.C. Burning of Waste
- II.C.1. Except as provided in this paragraph, intentional burning of solid waste is prohibited and is a violation of R315-303-4(2)(b) of the Utah Administrative Code. The Permittee is allowed to burn material by complying with the requirements of R307-202-5 of the Utah Administrative Code. The Permittee shall perform such burning in a segregated area within the landfill site. The Permittee shall extinguish all accidental fires as soon as reasonably possible. The Permittee's non-compliance with R307-202-5 of the Utah Administrative Code, as determined by the Director of the Division of Solid and Hazardous Waste, also constitutes non-compliance with this Permit.
- II.C.2. The Permittee shall extinguish all accidental fires as soon as reasonably possible.
- II.D. Daily Cover
- II.D.1. The Permittee shall completely cover the solid waste received at the landfill at the end of each working day with a minimum of six inches of earthen material

II.D.2. The Permittee may use an alternative daily cover material when the material and the application of the alternative daily cover meets the requirements of R315-303-4(4)(b) through (e) of the Utah Administrative Code.

II.E. Ground Water Monitoring

II.E.1. The Permittee shall monitor the ground water underlying the landfill in accordance with the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan contained in the Attachment#1. If necessary, the Permittee may modify the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan, provided that the modification meets all of the requirements of R315-301 through 320 of the Utah Administrative Code and is as protective of human health and the environment as that approved in the Permit Application, and is approved by the Director as a minor modification under R315-311-2(1)(a) of the Utah Administrative Code. The Permittee shall note in the daily operating record any modification to the Ground Water Monitoring Plan and the Ground Water Monitoring Quality Assurance/Quality Control Plan. A plan change that the Director finds to be less protective of human health or the environment than the approved plan is a major modification and is subject to the requirements of R315-311 of the Utah Administrative Code.

II.F. Gas Monitoring

II.F.1. The Permittee shall monitor explosive gases at the landfill in accordance with the Gas Monitoring Plan contained in the Attachment #1 and shall otherwise meet the requirements of R315-303-3(5) of the Utah Administrative Code. If necessary, the Permittee/s may modify the Gas Monitoring Plan, provided that the modification meets all of the requirements of R315-301 through 320 of the Utah Administrative Code and is as protective of human health and the environment as that approved in the Permit Application, and is approved by the Director as a minor modification under R315-311-2(1) of the Utah Administrative Code. The Permittee shall note any modification to the Gas Monitoring Plan in the daily operating record. Plan changes that the Director finds to be less protective of human health or the environment than the approved plan are a major modification and are subject to the requirements of R315-311 of the Utah Administrative Code.

II.F.2. If the concentrations of explosive gases at any of the facility structures, at the property boundary, or beyond the property boundary ever exceed the standards set in R315-303-2(2)(a) of the Utah Administrative Code, the Permittee shall:

II.F.2.a Immediately take all necessary steps to ensure protection of human health and notify the Director;

II.F.2.b Within seven days of detection, place in the daily operating record the explosive gas levels detected and a description of the immediate steps taken to protect human health;

II.F.2.c Implement a remediation plan that meets the requirements of R315-303-3(5)(b) of the Utah Administrative Code; and

II.F.2.d Submit the plan to, and receive approval from, the Director prior to implementation.

II.G. Waste Inspections

II.G.1. The Permittee shall visually inspect incoming waste loads to verify that no wastes other than those allowed by this permit are disposed in the landfill. The Permittee shall conduct a complete waste inspection at a minimum frequency of 1 % of incoming loads but no less than one complete inspection per day. The Permittee shall select the loads to be inspected on a random basis.

II.G.2. The Permittee shall document in the daily operating record that each load is received under a contract approved by the Director.

II.G.3. The Permittee shall inspect all loads suspected or known to have one or more containers capable of holding more than five gallons of liquid to ensure that each container is empty.

II.G.4. The Permittee shall inspect all loads that the Permittee suspect may contain a waste not allowed for disposal at the landfill.

II.G.5. The Permittee shall conduct complete random inspections as follows:

II.G.5.a The Permittee shall conduct the random waste inspection at the working face or an area designated by the Permittee.

II.G.5.b The Permittee shall direct that loads subjected to complete inspection be unloaded at the designated area;

II.G.5.c Loads shall be spread by equipment or by hand tools;

II.G.5.d Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and

II.G.5.e The personnel conducting the inspection shall record the results of the inspection on a waste inspection form as found in Attachment#3. The Permittee shall place the form in the daily operating record at the end of the operating day.

II.G.5.f The Permittee or the waste transporter shall properly dispose of any waste found that is not acceptable at the facility at an approved disposal site for the waste type and handle the waste according to the rules covering the waste type.

II.H. Disposal of Special Wastes

II.H.1. If a load of incinerator ash is accepted for disposal, the Permittee shall transport it to the place of disposal in such a manner as to prevent leakage or the release of fugitive dust. The Permittee shall completely cover the ash with a minimum of six inches of material, or the Permittee shall use other methods or material, if necessary, to control fugitive dust. The Permittee may use ash for daily cover when its use does not create a human health or environmental hazard.

II.I. Self Inspections

II.I.1. The Permittee shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes or contaminated materials to the environment or create a threat to human health or the environment. The Permittee shall complete these general inspections no less than quarterly and shall cover the following areas: Waste placement, compaction, cover; cell liner; leachate systems; fences and access controls; roads; run-on/run-off controls; ground water monitoring wells; final and intermediate cover; litter controls; and records. The Permittee shall place a record of the inspections in the daily operating record on the day of the inspection. The Permittee shall correct the problems identified in the inspections in a timely manner and document the corrective actions in the daily operating record.

II.J. K. Recordkeeping

II.J.1. The Permittee shall maintain and keep on file at the scale house, a daily operating record and other general records of landfill operation as required by R315-302-2(3) of the Utah Administrative Code. The landfill operator, or other designated personnel, shall date and sign the daily operating record at the end of each operating day. Each record to be kept shall contain the signature of the appropriate operator or personnel and the date signed. The Daily operating record shall consist of the following two types of documents:

II.J.1.a Records related to the daily landfill operation or periodic events including:

II.J.1.a.(i) The number of loads of waste and the weights or estimates of weights or volume of waste received each day of operation and recorded at the end of each operating day;

II.J.1.a.(ii) Major deviations from the approved plan of operation, recorded at the end of the operating day the deviation occurred;

II.J.1.a.(iii) Results of monitoring required by this Permit, recorded in the daily operating record on the day of the event or the day the information is received;

II.J.1.a.(iv) Records of all inspections conducted by the Permittee, results of the inspections, and corrective actions taken, recorded in the record on the day of the event.

II.J.1.b Records of a general nature including:

II.J.1.b.(i) A copy of this Permit, including all attachments;

II.J.1.b.(ii) Results of inspections conducted by representatives of the Director, and of representatives of the local Health Department, when forwarded to the Permittee;

II.J.1.b.(iii) Closure and Post-closure care plans; and

II.J.1.b.(iv) Records of employee training.

II.K. Reporting

II.K.1. The Permittee shall prepare and submit to the Director an Annual Report as required by R315-302-2(4) of the Utah Administrative Code. The Annual Report shall include: the period covered by the report, the annual quantity of waste received, an annual update of the financial assurance mechanism, a re-application for approval of the financial assurance mechanism, any leachate analysis results, all ground water monitoring results, the statistical analysis of ground water monitoring results, the results of gas monitoring, the quantity of leachate pumped, and all training programs completed.

II.L. Roads

II.L.1. The Permittee shall improve and maintain all access roads within the landfill boundary that are used for transporting waste to the landfill for disposal shall be improved and maintained as necessary to assure safe and reliable all-weather access to the disposal area.

II.M. Litter Control

II.M.1. Litter resulting from operations of the landfill shall be minimized. In addition to the litter control plans found in Attachment#1, the Permittee shall implement the following procedures when high wind conditions are present:

II.M.1.a Reduce the size of the tipping face;

II.M.1.b Reduce the number of vehicles allowed to discharge at the tipping face at one time;

II.M.1.c Orient vehicles to reduce wind effects on unloading and waste compaction;

II.M.1.d Reconfigure tipping face to reduce wind effect;

II.M.1.e Use portable and permanent wind fencing as needed; and

II.M.1.f Should high winds present a situation that the windblown litter cannot be controlled; the Permittee shall cease operations of the landfill until the winds diminish.

**III. CLOSURE REQUIREMENTS**

III.A. Closure

III.A.1. The Permittee shall install final cover of the landfill as shown in the Attachment#4. The final cover shall meet, at a minimum, the standard design for closure as specified in the R315-303-3(4) of the Utah Administrative Code plus sufficient cover soil or equivalent material to protect the low permeability layer from the effects of frost, desiccation, and root penetration. The Permittee shall submit to the Director a quality assurance plan for construction of the final landfill cover, and approval of the plan shall be received from the Director prior to construction of any part of the final cover at the landfill. A qualified person not affiliated with the Permittee or the construction contractor shall perform permeability testing on the recompacted clay placed as part of the final cover.

III.A.2. Title Recording

III.A.2.a The Permittee shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Garfield County Recorder as part of the record of title that the property has been used as a landfill. The notice shall include waste disposal locations and types of waste disposed. The Permittee shall provide the Director the notice as recorded.

III.B. Post-Closure Care

III.B.1. The Permittee shall perform post-closure care at the closed landfill in accordance with the Post-Closure Care Plan contained in the Attachment#4 Post-closure care shall continue until all waste disposal sites at the landfill have stabilized and the finding of R315-302-3(7)(c) of the Utah Administrative Code is made.

III.C. Financial Assurance

III.C.1. The Permittee shall continue to fund the approved mechanism. The Permittee shall adequately fund and maintain the financial assurance mechanism(s) to provide for the cost of closure at any stage or phase or anytime during the life of the landfill or the permit life, whichever is shorter. The Permittee shall keep the approved financial assurance mechanism in effect and active until closure and post-closure care activities are completed and the Director has released the facility from all post-closure care requirements.

III.D. Closure Cost and Post-Closure Cost Revision

III.D.1. The Permittee shall submit a complete revision of the closure and post-closure cost estimates by the Closure Cost Revision Date listed on the signature page of this Permit and any time the facility is expanded, any time a new cell is constructed, or any time a cell is expanded.

**IV. ADMINISTRATIVE REQUIREMENTS**

IV.A. Permit Modification

IV.A.1. Modifications to this Permit may be made upon application by the Permittee or by the Director. The Permittee shall be given written notice of any permit modification initiated by the Director.

IV.B. Permit Transfer

IV.B.1. This Permit may be transferred to a new permittee or new permittees by complying with the permit transfer provisions specified in R315-310-11 of the Utah Administrative Code.

IV.C. Expansion

- IV.C.1. This Permit is for a Class I Landfill. The permitted landfill shall operate according to the design and Operation Plan described and explained in Attachment#1. Any expansion of the current footprint designated in the description contained in the Permit Application, but within the property boundaries designated in the Permit Application, shall require submittal of plans and specifications to the Director. The plans and specifications shall be approved by the Director prior to construction.
- IV.C.2. Any expansion of the landfill facility beyond the property boundaries designated in the description contained in the Attachment#2 shall require submittal of a new permit application in accordance with the requirements of R315-310 of the Utah Administrative Code.
- IV.D. Expiration
- IV.D.1. If the Permittee desires to continue operating this landfill after the expiration date of this Permit, the Permittee shall submit an application for permit renewal at least six months prior to the expiration date, as shown on the signature (cover) page of this Permit. If the Permittee timely submits a permit renewal application and the permit renewal is not complete by the expiration date, this Permit shall continue in force until renewal is completed or denied.

Attachment #1

Operations plan



## **PLAN OF OPERATION**

### **INTRODUCTION**

This document constitutes the plan of operation for the John's Valley Sanitary Landfill and is intended to comply with the Utah Administrative Rules R315-301 through R315-320. Technical questions and comments may be directed to:

Brian B. Bremner, P.E.  
P.O. Box 77  
Panguitch, Utah 84759  
(435) 676-1119

### **HANDLING PROCEDURES**

During the active life of the landfill municipal solid waste designated for disposal will be brought to the working face where it will be dumped, spread, and compacted. No later than the end of each day's operation, waste will be covered with a minimum of 6 inches of earthen material, or with an alternate daily cover that has been approved by the Director. Covering operations shall minimize the possibility of infiltration. Procedures for the handling of specific wastes including but not limited to dead animals, large appliances, car bodies and asbestos are delineated below. Scavenging will not be permitted at the site.

The landfill currently accepts only non-friable asbestos waste for disposal. Although not currently planned, friable asbestos wastes may be accepted if the conditions of UAC R315-315-2 are satisfied as follows: a) the asbestos waste is adequately wetted and properly containerized by double bagging and sealing in 6 mil or thicker plastic bags to prevent fiber release and b) asbestos waste containers are generated, and tagged with a warning label that conforms to the requirements of 40 CFR Part 61.149(2).

If properly transported and packaged, asbestos waste which meets the above criteria is received at the landfill, the operator will:

- \$ Verify the quantities of waste received, sign off on the waste shipment record, and send a copy of the waste shipment record to the generator within 30 days;
- \$ Require vehicles that have transported asbestos waste to be marked with warning signs as specified in 40 CFR Part 61.149(d)(1)(iii);
- \$ Inspect the load to verify that the asbestos waste is properly contained in leak-proof containers and properly labeled;
- \$ Place asbestos containers at the bottom of the active face with sufficient care to

- \$ avoid breaking the containers;
- \$ Cover the waste within 18 hours with a minimum of six inches of material that does not contain asbestos;
- \$ Provide barriers to limit public access to the asbestos disposal area until the waste has been covered with six inches of material which does not contain asbestos; and
- \$ Place warning signs at the entrance and around the perimeter of the asbestos disposal area which comply with 40 CFR 61.154(b).

If the attendant believes the condition of an incoming asbestos load is such that significant amounts of fiber may be released during disposal, the attendant will notify the local and regional health departments and the Director. If the wastes are not properly containerized, and the landfill operator inadvertently accepts the load, the operator shall thoroughly soak the asbestos material with a water spray prior to unloading, rinse out the haul truck, dispose of the waste near the base of the active face, and immediately cover the waste prior to compaction with six inches of non-asbestos material in a manner sufficient to prevent fiber release.

Ash will be transported in such a manner to prevent leakage or the release of fugitive dust. The landfill operator will unload the transport vehicles at the bottom of the working face and keep the ash wetted, if necessary, to prevent fugitive emissions prior to covering; and within 24 hours, the operator will completely cover the ash with a minimum of 6 inches of other non-ash landfill waste or a minimum of 6 inches of material containing no waste or use other methods or materials, if necessary, to control fugitive dust.

Bulky waste such as automobile bodies, furniture, and appliances will be crushed and then pushed onto the working face near the bottom of the cell or into a separate disposal area. When conditions permit, appropriate bulky items may also be recycled.

The landfill will minimize liquids by prohibiting containerized liquids or waste containing free liquids in containers larger than five gallons, non-containerized liquids, and /or sludges containing free liquids. No waste treatment plant sludge, digested waste water treatment plant sludge, or septage containing free liquids will be disposed in portions of the landfill containing other solid waste. Water treatment plant sludge, digested waste water treatment plant sludge, or septage containing no free liquids will be placed at or near the bottom of the landfill working face and covered with other solid waste or other suitable cover material.

Dead animals received at the facility will be deposited onto the working face at or near the bottom of the cell with other solid waste, or into a separate disposal trench provided they are covered daily with a minimum of 6 inches of earth to prevent odors and the propagation and harborage of rodents and insects.

Areas of the landfill that have not anticipated to receive waste for a period of more than 30 days

will be covered with an intermediate cover that consists of a minimum of 12 inches of earthen material.

## **INSPECTIONS AND MONITORING**

Inspection and monitoring at the John's Valley Sanitary Landfill will be conducted in two components: (1) routine and (2) compliance. Routine inspections will be conducted on incoming material on a random basis to prohibit receipt of unacceptable wastes. In addition, random checks will be made during deposition, spreading, and covering operations to insure protection of the environment and absence of nuisances. Unacceptable waste screening inspection will be made by trained personnel; operational inspection will be made by supervisory landfill personnel.

Compliance inspections will be conducted quarterly to assess the integrity of cover, the condition of side slopes and vegetative cover, and the impacts of erosion. In addition, a detailed annual inspection will be conducted to verify compliance with all permit conditions and state and federal regulations. All inspection records will be kept at the landfill for the current calendar year. Within 30 days of the end of the calendar year, annual records will be transferred to the County Courthouse and will be stored for a minimum of three years.

## **FIRE/EXPLOSION CONTINGENCY PLAN**

In the event of a fire or an explosion that prohibits deposition of incoming waste in the existing cell, materials received at the landfill will be diverted and temporarily stored on previous cells and will be covered with an alternate daily cover approved by the Director or 6 inches of earthen material. Upon resolution of the unexpected event and not longer than 30 days, the waste will be transported to its final disposal destination and treated as incoming waste.

## **CORRECTIVE ACTION FOR CONTAMINATED GROUNDWATER**

This section describes corrective actions to be taken by owners and operators to regain compliance with protection levels for the John's Valley Sanitary Landfill in the event concentration limits are exceeded in a down gradient compliance monitoring well.

When the concentrations of parameters in down gradient monitoring wells exceed the concentration limits as substantiated by confirmatory analyses, owners and operators of the John's Valley Sanitary Landfill will implement a corrective action program as outlined in R315-308 and in accordance with the revised groundwater monitoring plan submitted separately.

## **CONTINGENCY PLAN FOR OTHER RELEASES**

This section describes corrective actions to be taken by the John's Valley Sanitary Landfill to regain compliance with the protection levels of the permit in the event releases are discovered and acceptable concentration limits are exceeded.

When the concentration of parameters exceed acceptable limits as substantiated by confirmatory

analyses, owners and operators of the John's Valley Sanitary Landfill will implement a corrective action program approved by the Director.

### **DUST CONTROL / AIR QUALITY**

Fugitive dust is not anticipated to reach unacceptable levels at the Johns Valley Sanitary Landfill due to the granular nature of the predominant soils. If fugitive dust exceeds acceptable levels, actions will be implemented to reduce dust. These actions may include watering access roads, developing wind breaks, altering management scenarios, or other appropriate measures.

### **LITTER CONTROL**

Litter is controlled through use of best management practices. Active areas and working faces are limited; waste is covered shortly after deposition; and blowing trash is confined as much as practical. In addition, litter control fencing has been established along the perimeter of the active area. However, high winds occasionally occur at the landfill. Any litter escaping the perimeter of the landfill will be periodically picked up by hand.

### **EQUIPMENT MAINTENANCE**

Active collection systems for explosive gases are not proposed for the John's Valley Sanitary Landfill. Therefore, no maintenance will be required for these items. Maintenance of groundwater collection systems and equipment used in day-to-day operations will be performed by landfill employees or contracted mechanics in accordance with manufacturers' recommendations and industry practices.

### **EXCLUSION OF HAZARDOUS WASTE**

As a small rural landfill, the John's Valley facility is in a favorable position regarding exclusion of hazardous waste. During periods when the landfill is open, waste will be observed as it is removed from the collection vehicle. The waste will be further examined for hazardous materials as it is being spread by the operator and compacted. If hazardous materials are found, the collection vehicle driver will be notified and the unacceptable substance will be removed from the landfill.

In addition to the daily inspection procedure, at least one percent of all vehicles (private citizen and route collection) and other suspicious loads will be examined to prohibit unauthorized waste. Vehicles subject to inspection will be directed to dispose of their material near the working face. The waste generator will be detained while the load is inspected. For large loads, the waste will be spread and landfill operators will walk through the waste. If prohibited hazardous waste or prohibited waste containing PCBs are encountered, they will not be accepted. In addition, the Director, the hauler, and the generator will be notified within 24 hours. Other appropriate authorities will be contacted as needed. Considering population served, waste volumes

generated, and complexity of the solid waste stream, these measures are considered to be adequate.

A section documenting the results of the formal inspections outlined above has been included as part of the daily record forms (see Exhibit 4b). Including hazardous/ PCB waste on the record forms will allow landfill managers to incorporate inspections in their daily routine and will permit regular reviews and inspections to be added efficiently while examining waste volumes.

### **DISEASE VECTOR CONTROL**

The primary method for disease vector control at the John's Valley Sanitary Landfill will be providing appropriate cover at the close of each day's operation. The cover will consist of a 6-inch minimum layer of earthen material or an alternate daily cover approved by the Director.

Rodents and other vermin will not be permitted to burrow in the active area of the landfill; and trapping or extinction methods will be implemented to protect the integrity of the disease vector control program.

### **ALTERNATIVE DISPOSAL**

Alternative waste handling procedures for periods when the landfill is not in operation will be similar to procedures for fires and explosions. Waste will be deposited in the alternate disposal site and covered with an alternate daily cover approved by the Director or 6 inches of earthen material. Procedures will continue in this manner until operations at the landfill can return to normal.

In the event of equipment breakdown that cannot be repaired in a reasonable time, equipment will be borrowed from contributing entities or leased from local distributors. It is the intent of owners and operators to have dedicated equipment at the landfill and, over a period of time, acquire appropriate backup equipment.

### **TRAINING AND SAFETY PLAN**

Currently at least 3 employees involved with the John's Valley Sanitary Landfill have completed the Manager of Landfill Operations Training Course and the Waste Screening Training Course provided by the Solid Waste Association of North America (SWANA). Limited training and educational experience exists for operators of rural landfills; however, employees will be encouraged to attend appropriate seminars and training as time and budgets permit.

Safety procedures will conform to OSHA guidelines; and personnel will be encouraged to participate in additional landfill management, waste screening, safety, and first aid workshops.

### **RECYCLING**

No formal recycling programs are planned for the Johns Valley Landfill. Currently, private collection services in the County collect certain metals in selected locations. When feasible, bulky items are also set aside and recycled. However, due to low volumes and unstable markets, neither of these operations is considered permanent.

### **FILLING SEQUENCE**

The first lift of the Phase III cell will begin in the Southeast corner of the lined cell and will be deposited near the end of the cell slope. Equipment used for compaction and cover operations will move onto the cell from the East, and waste will be carefully pushed off the end of the construction pad and covered. Operators will exercise care to avoid pushing waste through the earthen protective cover. Landfill personnel will continue to deposit and spread waste material in a westerly direction until sufficient area is present to accommodate incoming trucks. Subsequent loads will be brought onto the previous waste and carefully deposited, pushed and covered. Waste material will be added in successive lifts until final elevation is reached. The process will then be repeated. Additional lifts will begin at the toe of slope at the Southeast corner and progress in a westerly direction to cover the bottom area of the cell. Operations will continue in this manner progressing in a westerly and then northerly direction until the lined cell is completely full of waste.

Attachment#2

Landfill design



## **PRELIMINARY ENGINEERING REPORT**

### **SITING CRITERIA**

The John's Valley Sanitary Landfill complies with siting criteria currently mandated by Subtitle D and recognized by the State of Utah Waste Management and Radiation Control Board. Specifically, no airport is located within 10,000 feet of the proposed landfill. The site is free from unstable areas and is not located within a 100-year flood plain or in any wetland. No residences, or federally designated parks, monuments, recreation areas, or wilderness areas exist within 1000 feet of the landfill. In addition to federal mandated criteria, the site is compatible with existing land uses, long-term landfill operation and is in a remote area free from dwellings and other incompatible structures such as churches, schools, hospitals, etc. At the time of construction, approximately 25 years ago, no scientifically significant areas or endangered species existed within the property boundaries. The active area has been previously disturbed, and landfill operations are not anticipated to exceed previously disturbed limits during the life of this permit. Cultural resources within the landfill have not been encountered. If discovered, cultural resources will be mitigated in accordance with SHPO requirements. Exhibit 7 is a copy of the F.E.M.A. flood zone map.

### **FACILITY LIFE**

The anticipated facility life for the Johns Valley Landfill cannot be accurately estimated. Estimates conducted by The Division of Solid and Hazardous Waste during the landfill's initial stages predicted a life in excess of 300 years. As of January 1, 2018 approximately 3% of the entire property is being used for active landfill operations, and managers are only approaching initial closure procedures. Based on the overall size of the property, relatively low waste volumes, and current efficiencies, facility life is estimated well in excess of 50 years.

### **CELL DESIGN AND OPERATION**

The John's Valley Sanitary Landfill is designed to minimize active areas and to reach final elevation as soon as practical in order to minimize infiltration and leachate generation. The individual lifts in each cell are designed to accommodate from two to five years of waste and to expand in an orderly fashion from south to north.

Cells are approximately 50 - 80 feet in total depth, and bottom widths have been excavated to approximate 400 feet. The width of progressive lifts will vary with volumes of waste, season of the year, and soil stockpile needs but are anticipated to be less than 100 feet. Current excavations provide a minimum of one-year capacity for growth and unexpected problems. The cell will continue in a northerly direction as needed. Interior side slopes will approximate 4:1 and will be developed as part of the daily covering operations. Exterior fill slopes will also be 4:1 and may extend above natural ground by 60 feet or more. Updated concept and construction plans are included with this application.

Existing cells are nearing final elevation. As viable segments of the cells reach final elevation they will be contoured and prepared to receive final cover. As areas are prepared, final cover will be installed on a regular basis. This permit contemplates the installation of final cover on an ongoing basis.

Near the close of each working day, waste will be spread, compacted and covered with 6 inches of native soil or an alternate daily cover approved by the Executive Secretary. The alternate daily cover may consist of a plastic blanket meeting Executive Secretary requirements. If used, the blanket will be removed at least weekly, and waste will be covered with a minimum of 6 inches of earthen material. Historic use of the blanket has demonstrated it controls vectors, odors, blowing litter, and scavenging. The weekly application of 6 inches of earthen material creates a fire barrier to control fires. Cells which do not receive waste for more than 30 days will be covered with an intermediate cover consisting of a minimum of 12 inches of earthen material.

The 50 - 80 foot cell height described earlier is a nominal maximum dimension and does not consider final slopes necessary to promote drainage or additional covering requirements. Cells are anticipated to consist of solid waste compacted in lifts ranging from 7 feet to 12 feet and covered with 6 inches to 12 inches of daily or intermediate cover material. Seven to ten lifts may be accommodated in the nominal height. A phasing plan is included as Exhibit 8.

### **LINER DESIGN**

Currently John's Valley Landfill operates with a) an unlined cell that is at capacity and is ready for closure and b) a lined cell that is nearing capacity and will be closed as it reaches final elevation. Operation in the unlined cell is anticipated to reach final elevation concurrent with permit renewal, and closure operations will begin as soon as practical.

Approximately 10 years ago landfill was upgraded to Class I status and as part of the permit renewal process, a composite liner was implemented. The design consisted of suitable subgrade material to provide structural support and prevent ruptures to the liner, a geosynthetic clay liner, a 60 mil high density polyethylene liner, a geosynthetic drainage net and 24 inches of earthen protective cover to prevent damage to the liner when material is deposited. The prepared subgrade was to be free from protrusions and objects that could damage the liner, and protective covers consist of 6 inches of 1 ½ inch minus material and 18 inches of pit run material were placed in areas where waste could be in contact with the liner.

An identical design will be incorporated in the Phase III cell. Geosynthetic clay and plastic liners will meet minimum state standards. A quality assurance/quality control program has been developed as part of the construction process, and approval by the Executive Secretary is being sought as part of the permitting process. Approval is required prior to the work.

### **LEACHATE COLLECTION SYSTEM**

A leachate collection system has been sized and designed in accordance with water balance

calculations and other accepted engineering principles. The system allows the discharge of leachate into a collection trench where it will be extracted and recirculated in lined cells. The system prevents the development of no more than one foot of leachate in the bottom of landfill cells. Landfill cells have been constructed with slopes draining to the north. Slopes in the bottom of the cell are 2% or greater. Composite liners will be covered with geosynthetic drainage net and permeable, granular materials. Leachate will be collected in a trench bordering the north edge of the active cell. The collection trench will have 4:1 side slopes and will have a bottom width of at least 32 feet. With a depth ranging from 4 ft. to 6 ft., the trench has the capacity to contain twice the total volume of leachate produced by the 25 year storm event and 1.5 times the leachate volume produced by the 100 year storm. Leachate will be allowed to collect in the trench until it encroaches on the freeboard required to accommodate the 25 year event, at which time the leachate will be pumped and recirculated. Recirculation efforts will occur via water distribution trucks or portable pumps and sprinklers as needed. The collection system will be accompanied, as needed, with access piping to protect the trench liner during extraction operations. Recirculated leachate will be used in dust control and compaction operations only in the active, lined areas. Design calculations have been included in Appendix C.

The collection and treatment option described above includes best management practices which minimize water infiltration. Components of the best management practices may include: (1) diversion of intermittent washes for storms smaller than the 25-year event, (2) berm-style construction and stockpiling operations, (3) final cover as described above placed as soon as practical after final elevation, (4) sloping of the final cover to promote run-off, (5) use of alternate daily covers which resist infiltration, and (6) providing adequate compaction to reduce void space and leachate development. Considering annual precipitation rates, proposed liner design, and water balance estimates, other leachate collection and treatment options may not be practical.

In anticipation of extraordinary events or severe storms which could occur during the initial stages of operation, analysis was conducted on granular material to be used in the protective cover operations. Conservative analysis indicates more than 20% of back to back 25 year storm events will be held in protective layer pore spaces. Capacity of the leachate trench exceeds quantity derived from required back to back storm events. Prior to final closure of the landfill an evaporation pond will be designed and constructed in accordance with state requirements. Post closure leachate will be collected in the pond and allowed to evaporate or disposed in an authorized wastewater facility

### **EQUIPMENT AVAILABILITY**

Equipment operating at the John's Valley Sanitary Landfill includes a bulldozer, a landfill compactor, a loader, and a scraper. In addition, backhoes, graders, loaders and other construction equipment owned by Garfield County may be used from time to time at the landfill. A variety of industrial equipment, vacuums, and pumps are also available on site. In addition, the landfill has access to the Public Works Department's full compliment of equipment.

## **BORROW SOURCES**

For day to day operations requiring borrow, the John's Valley Landfill will utilize on-site sources. For construction of low grade impermeable covers and liners, a 40-acre borrow source has been acquired near the Landfill. Garfield County will utilize the borrow source as needed. Current estimates indicate that approximately 750,000 cubic yards of material is available at the borrow site. More than 10 million yards of native material is available within the property boundaries. If for any reason existing borrow sites become unsuitable, alternate borrow sources will be obtained.

## **LEACHATE COLLECTION, TREATMENT AND DISPOSAL**

The John's Valley Sanitary Landfill is being permitted as a Class I facility located in an arid region with favorable soil conditions. Water balance calculations indicate a diminimus volume of leachate will be generated at the landfill. HELP Model simulations submitted as part of the original permit indicate an area left open to precipitation for 5 years would be at wilting point during October of each year. The model also demonstrated an absence of leachate during the 5-year simulation.

All leachate and run off liquids that contact waste and are developed within the landfill will be contained and collected on site. No off site collection, treatment and/or disposal are planned for the active phases of the facility=s life. Insufficient data exists to determine the volume of leachate generated during the post closure period of the landfill. Sufficient area exists for development of an evaporation pond, and Panguitch City has indicated that post closure leachate could be placed in the Panguitch City wastewater facility. Garfield County will collect leachate generation data as part of its regular inspection program at the landfill. In future phases, evaporation ponds will be designed and constructed to accommodate post closure leachate or formal agreements will be reached with local government wastewater facilities for disposal of leachate.

## **LANDFILL GAS CONTROL AND MONITORING**

Due to the arid nature of the climate at the John's Valley Sanitary Landfill, permeability of predominant soils and the low volume of waste accepted at the facility, landfill gas concentrations are not anticipated to reach significant levels. The large area of the proposed facility is designed to accommodate dissipation of any landfill gases prior to reaching the property boundary.

Monitoring for landfill gases will be conducted as part of the quarterly inspections performed by landfill managers. Concentration will be measured at each on-site structure. In addition, landfill gas concentration will be evaluated at southwest corner of the property boundary and, for information purposes only, Garfield County may also measure gas concentrations randomly in the active area. Results will be recorded on quarterly inspection forms.

Garfield County has purchased a portable gas monitor and will be installing the unit in the facility weigh shack. As a safety precaution, landfill personnel will be instructed to check the detection device prior to entering the facility. This practice will continue to be a voluntary action by

Garfield County and is aimed at encouraging safety-sensitive operations.

Should unacceptable levels of landfill gases be detected, contingency plans described in other areas of this permit will be implemented. If gas levels exceed 25% of the lower explosive limit in structures or the 100% of the lower explosive limit at property boundaries, immediate action will be taken to protect human health, and the Executive Secretary will be contacted within 24 hours. Additional state regulations, including operating record notations within seven days and implementation of a remediation plan within sixty days, will be completed.

### SLOPE STABILITY

A stability analysis has been completed for the proposed Johns Valley landfill cells with excavations approximately 20 feet in depth and side slopes of four horizontal to one vertical. The landfill will be excavated into soils classified as well graded gravel with cobbles. Groundwater is projected to be at least 20 feet below the bottom of the landfill excavation and will not be closer than 5 ft.

The analysis was completed for the excavation side slopes for the newly constructed case, prior to deposition of any waste material. This will be the most critical configuration since there will not be any waste material to provide lateral support of the slopes. The well graded gravel material was modeled using a friction angle of 36 degrees and a cohesion value of 100 psf to account for slight cementation. A saturated unit weight of 130 pcf was also used.

Stability analyses were completed utilizing a Modified Bishop method. The program used performs a search for the lowest safety factors by generating 20 potential failure surfaces from 20 initiation points (total of 400 surfaces). The 10 circles or random surfaces with the lowest factors of safety are shown on the output. For this analysis two conditions were modeled: (1) stability under static conditions and (2) stability under pseudostatic (seismic) conditions. For the pseudostatic condition a horizontal acceleration value ranging from 0.4g to 0.5g was used. Algrmissen (1991) identified a horizontal acceleration of 0.4g for the area with a 90 percent probability of not being exceeded in 250 years. Figure R301.2(2) of the 2000 International Residential Code puts the area in a seismic design category D1, with 0.5g.

Graphical outputs of the stability analyses with the locations of the 10 failure surfaces with the lowest factors of safety were developed. Based on the analyses, the stability under static and seismic conditions are well within the generally accepted minimum safety factors. Results of the stability analysis are summarized below.

Side Slope Configuration	Safety Factor (Static)	Safety Factor (Pseudostatic)	Minimum Required Factor of Safety
4H:1 V	3.74	1.12 (0.5g) / 1.32 (0.4g)	1.5 (static) 1.0 (earthquake)

The final cap over the landfill consisting of 12 inches of soil overlain by a geosynthetic clay liner, or a 60 mil HDPE liner, and 12 to 30 inches of protective soil cover was also evaluated. The results indicated that due to the limited thickness of the soil cover, the cap will be more susceptible to erosion than to instability during seismic events. In order to maximize stability, the analysis recommended the cap extend beyond the excavation footprint.

Slope stability analysis was also requested at the waste working face near the top edge of the leachate collection trench. A similar analysis was performed at the Wasatch Regional Waste Facility. In a copyrighted report published by Kleinfelder Inc. and available on the Utah Solid and Hazardous Waste website, the evaluation considered waste placed on a 3:1 slope with a friction angle of 0 degrees and a cohesion value of 500 psf. Kleinfelder determined the waste slope is stable under both static and seismic conditions with minimum factors of safety of 1.7 and 1.3 respectively. Slopes at the working face of the Johns Valley Landfill will be flatter than 3:1 and will have a greater factor of safety.

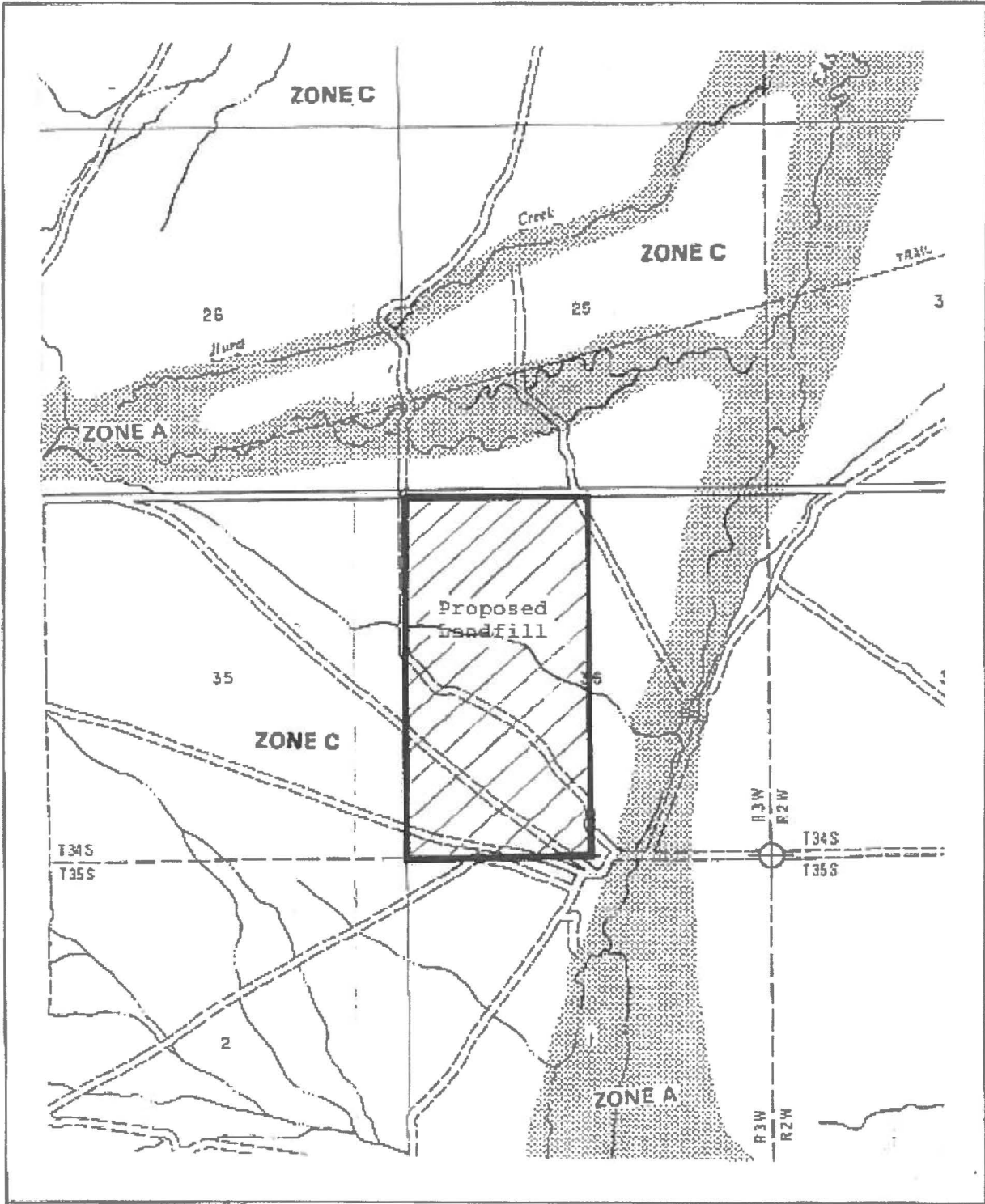
#### **RUN ON / RUN OFF CONTROL**

Run on and run off control are implemented through a series of best management practices and topographic features. A county road runs along the exterior southern and western perimeter of the active cells. This road prevents surface waters from entering the facilities. Inside property boundaries, interior perimeter roads and berm style stockpiling further prevent surface flows from contacting waste. Operational characteristics, contouring, ditching, and permeability of the waste contain precipitation which contacts waste within the active area. Surface flows from the 25 year storm which contact waste are prevented from entering or leaving the facility.



**JOHNS VALLEY SANITARY LANDFILL**

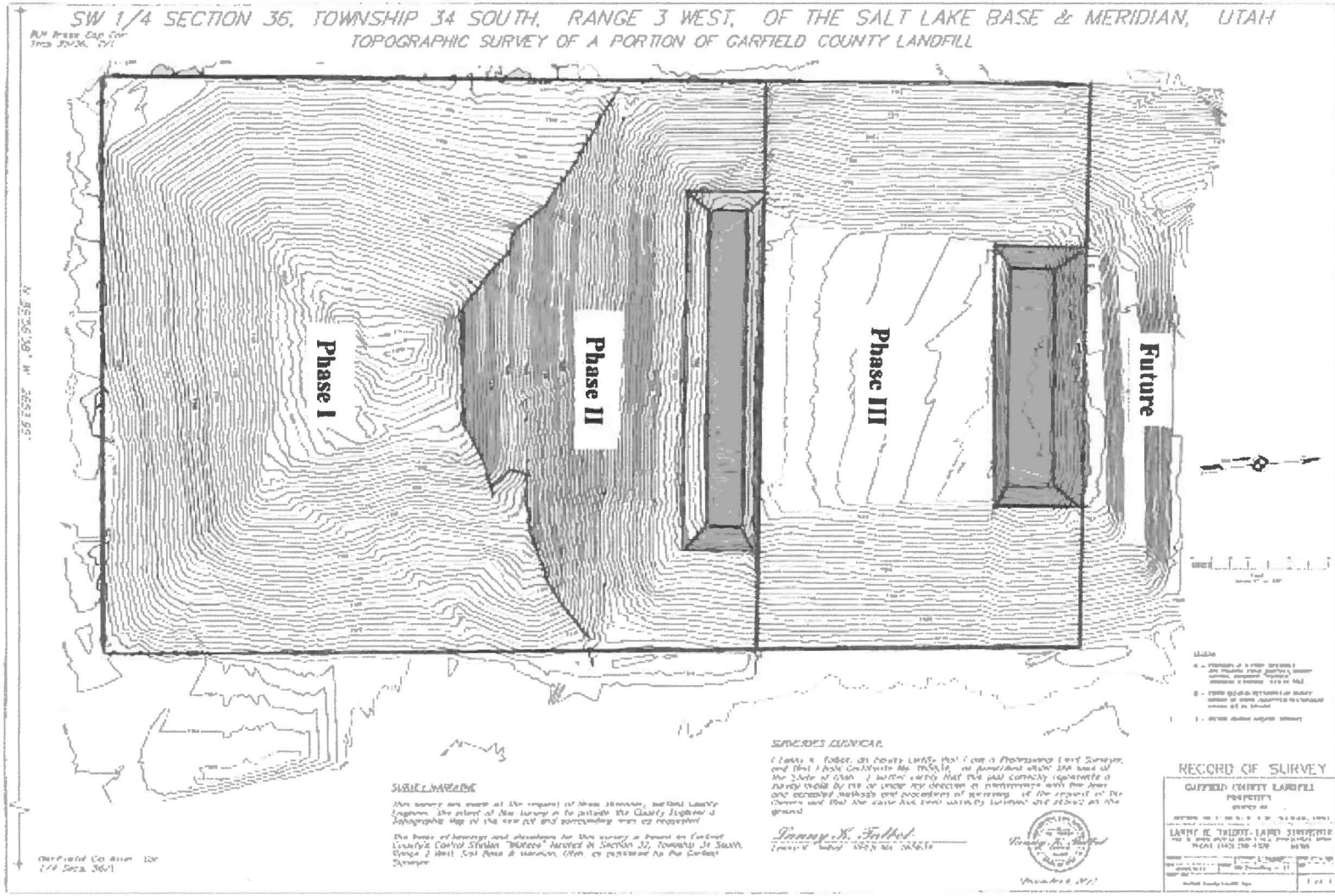
Exhibit 6 Geologic Map & Description



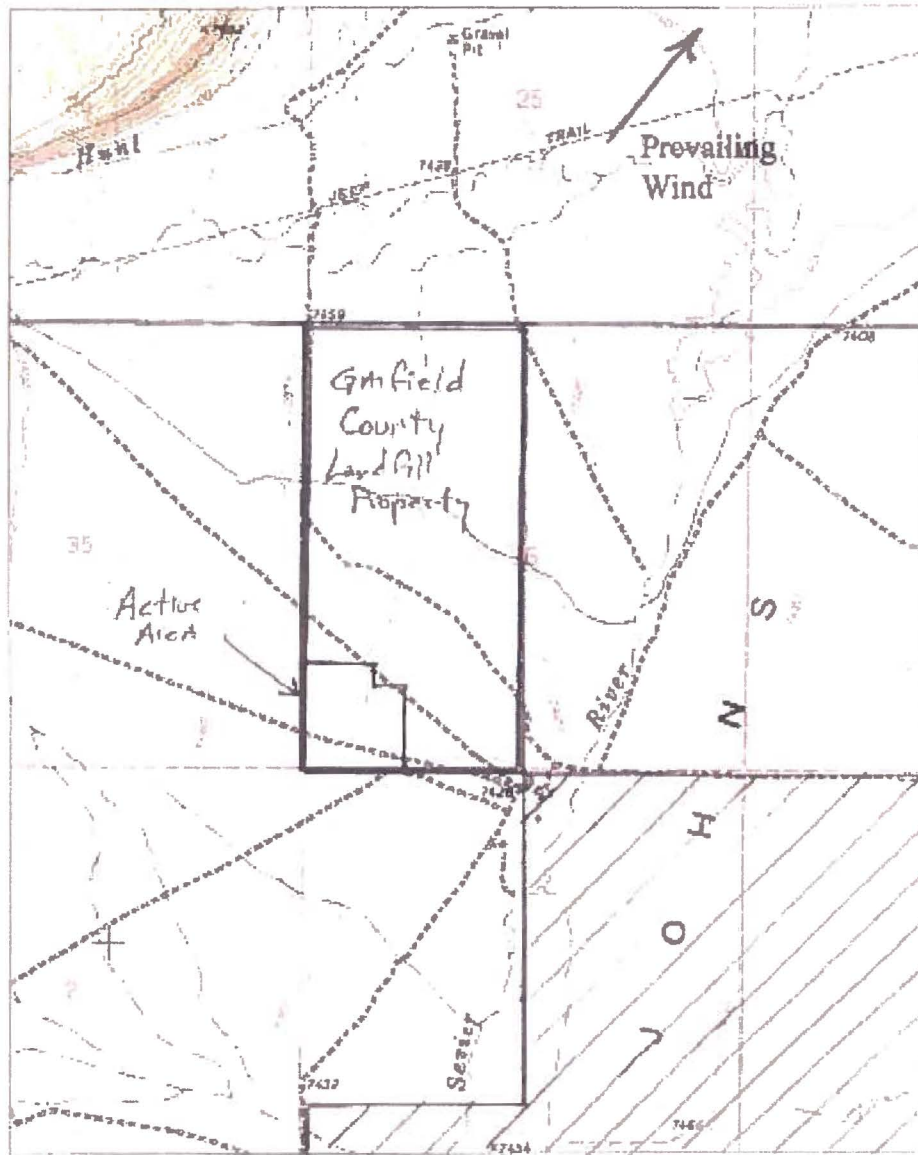
JOHNS VALLEY SANITARY LANDFILL

Exhibit 7. Floodplain Map





JOHNS VALLEY SANITARY LANDFILL  
 Exhibit 8 Phasing Plan



Agricultural Based  
 All other property Multiple Use

No residences, parks, monuments, recreational areas or wilderness within 1000 feet Griffiths Co. Property

UTM  
 12 North  
 NAD 1927 (Contus)



Scale 1:24,000

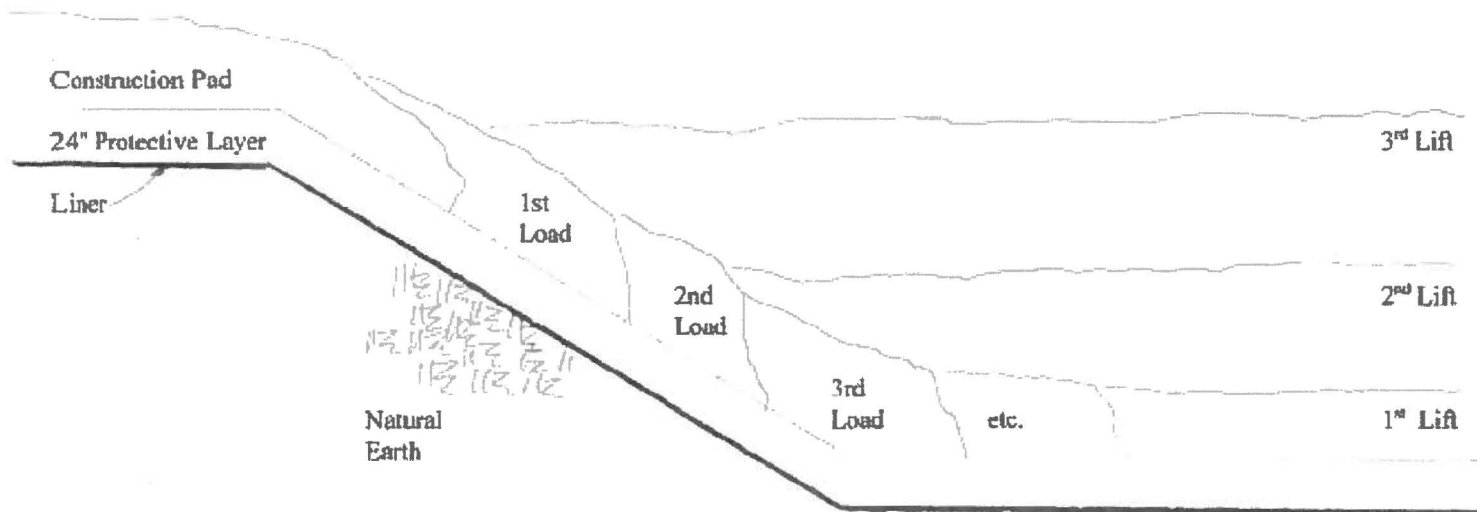


8/14/2007

GIS/Patrol/Office



JOHNS VALLEY SANITARY LANDFILL  
 Exhibit 9 Topographic Map



### Filling Sequence

The first lift will begin in the Southeast Corner of the lined and will be deposited near the end of a construction pad. Waste will then be carefully pushed off the end of the pad and covered. Subsequent loads will be brought onto the previous waste and carefully deposited, pushed and covered. Operations will continue in this manner progressing in a westerly and northerly direction until the lined cell is covered with one lift of waste.

Additional lifts will begin at the toe of slope at the Southeast corner and progress in a westerly and northerly direction to cover the bottom area of the cell. When waste reaches natural ground level, operations will begin moving from west to east and / or construction of Phase II b will be initiated.

Attachment#3

Inspections

**JOHN'S VALLEY SANITARY LANDFILL**  
Hazardous/PCB Record Form

Date \_\_\_\_\_ Time \_\_\_\_\_ Vehicle \_\_\_\_\_

No. \_\_\_\_\_

Random Selection: Yes\_\_\_/No\_\_\_ Suspicious Load: Yes\_\_\_/No\_\_\_ Other: \_\_\_\_\_

Vehicle Owner: \_\_\_\_\_

Name

Address

City

State

Phone

Waste Origin: \_\_\_\_\_ Waste Type \_\_\_\_\_

Describe any hazardous or PCB wastes encountered: \_\_\_\_\_

Action Taken: \_\_\_\_\_

Comments: \_\_\_\_\_

If hazardous waste or PCB waste is encountered, contact the Division of Waste Management and Radiation Control at (801) 536-0200.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Attachment#4

Closure

## **CLOSURE / POST CLOSURE**

### **CLOSURE SCHEDULE**

Closure operations at the John's Valley Sanitary Landfill will be performed on an ongoing basis. Adequate capacity exists at the landfill to continue operation for many years. A final closing date cannot be determined at this time. Ongoing closure operations will generally be performed from April to November, or as weather permits. No area larger than 8 acres that has achieved final elevation will remain open longer than 6 months. Within 60 days of final receipt of waste in a landfill unit, Garfield County will notify the Director of their intent implement the closure plan. Landfill operators will implement closure operations within 30 days of receipt of final waste volumes. If weather or size limitations make closure operations impractical, closed units will be covered with a total of at least 12 inches of earthen materials and final closure will be implemented as soon as practical. Closure activities will be completed within 180 days of their actual starting date. Additionally, within 90 days of completion of closure operations, owners / operators of the Johns Valley Landfill will submit to the Director as built drawings and certifications signed by a professional engineer indicating the unit has been closed according to the approved closure plan and modifications authorized by the Director.

This renewal process contemplates obtaining authorization to implement closure activities. Portions of the Phase I, unlined cell are nearing or have reached a condition suitable for closure. Additional portions of the Phase I cell and the southernmost portion of the Phase II cell are approaching elevations where closure is imminent. Those portions of the Phase I cell that are suitable for closure will be closed as soon as practical following completion of Phase III construction. The northern portion of the unlined cell and the southern portion of the Phase II cell will continue in operation until they reach their design elevation and the new Phase III cell is operational. Landfill operators will initiate closure of these areas when they achieve final design elevation. Authorized closure plans will be initiated within days of final receipt of waste.

The new cell constructed as described in this permit is anticipated to operate for a minimum of ten years. However, landfill operations may be conducted in a manner that facilitates on going closure of short sections of disposal areas that reach final elevation. Each new lined cell will be closed as the subsequent cell is brought into operation. Consequently, closure operations will be cyclic, of short duration and will occur every few years. It is anticipated that approval of this renewal application also authorizes ongoing closure of cells reaching final elevation.

### **FINAL COVER**

Unlined cells are to be covered with 18 inches of earthen material having a permeability of  $1 \times 10^{-5}$  cm/sec. and 6 inches of topsoil. Landfill operators have encountered difficulty constructing earthen covers while meeting stringent quality assurance guidelines. For this reason, an engineered earthen cover, (a geosynthetic clay liner or a 60 mil HDPE liner) may be used when permeability characteristics are equal or better than earthen materials. At present, a geosynthetic liner with a minimum of 1 ft. of earthen material is designed to meet permeability requirements for

unlined cells at the Johns Valley Landfill. Based on ease of construction, favorable permeability characteristics and reliable technology, Garfield County anticipates adopting the geosynthetic clay liner as the preferred method for final cover at the Johns Valley landfill. One foot of earthen material which includes a 6 inch layer of material suitable for vegetation will be placed on top of the geosynthetic clay liner.

Over lined cells, cover will consist of materials with permeability rates equal to or better than  $1 \times 10^{-7}$  cm/sec. Generally, Garfield County will implement a cover design consisting of a geosynthetic clay liner or a synthetic liner and additional earthen material to develop impermeable rates, protect non earthen materials and promote vegetation. In as much as lined units of the Johns Valley Landfill have leachate collection capabilities, no "bathtub effect will occur." Data will be evaluated throughout the life of the landfill; and post closure care for leachate collection and disposal will accommodate any precipitation which permeates the final cover.

Landfill covers may trap unwanted gasses and create internal pressure on the cover. In order to alleviate this potential situation, passive vents will be installed at the landfill crown at distances not more than 200 ft. Vents will be screened and capped to prevent intrusion by small animals or precipitation. Considering the landfill's native cover material, it is anticipated that landfill gasses will migrate to the crown. Passive vents will be monitored as part of the post closure inspections.

#### **SITE CAPACITY**

Site capacity for the entire John's Valley Sanitary Landfill cannot be accurately estimated. Assuming full development Phases II and III within the existing fenced parcel and an average density of approximately 600 lbs. per cubic yard, waste volumes can be estimated well in excess of 1,062,000 cubic yards or 320,000 tons. Sufficient capacity exists to continue operations well beyond the life of this permit.

#### **FINAL INSPECTION**

The Johns Valley Landfill is anticipated to operate well beyond the life of this permit. At least 60 days prior to any final closure, the Division of Waste Management and Radiation Control will be contacted, and a final inspection will be scheduled. The Director will be informed of incremental closure of individual cells through routine state inspections, annual reports, and renewal applications. In addition, a QA/QC plan will be submitted for approval prior to final closure operations. Within 90 days of unit and/or facility closure, as built plans signed by a professional engineer shall be forwarded to the Director.

Landfill owners and operators shall allow the Director of the Utah Division of Waste Management and Radiation Control or an authorized representative, including representatives from the local District Health Department, upon representation of credentials, to enter during operating hours and/or inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under this permit.



A record of the inspection may be made by photographic, videotape, electronic or other reasonable means, and a copy of any such record shall be provided to the owner and the operator within a reasonable time.

### **SITE MONITORING**

The only permanent monitoring devices proposed for the John's Valley Sanitary Landfill are the leachate collection system and the groundwater monitoring wells that have already been constructed. The John's Valley Sanitary Landfill has an expected life well in excess of 100 years. Sufficient data should be available by that time to limit groundwater monitoring samples to an annual basis or less. Data should also be available for leachate production and treatments. Sometime in the distant future, beyond the life of this permit, additional wells may be necessary to evaluate groundwater, but the wells are not anticipated to be needed in the foreseeable future.

A lysimeter formerly functioned in the southeast corner of the active area. Having served its useful purpose, it was abandoned in 2007 and no longer provides data. Therefore, it will not be considered in the post-closure plan. Landfill gas in closed sections will be monitored as described in the preliminary engineering report for active areas. Surface waters in closed portions of the landfill are evaluated as part of the annual inspection. Monitoring will be limited to eliminating situations which promote infiltration.

### **LAND TRANSFERS AND USES**

Plats and a statement of fact concerning the location of any disposal site shall be recorded as part of the record of title with the County Recorder not later than 60 days after certification of closure. Upon recording, proof of the record of filing will be submitted to the Executive Secretary.

### **POST CLOSURE MAINTENANCE**

Post-closure care of inactive sections of the landfill will consist of maintaining the integrity of the final and vegetative covers. Any areas subject to erosion will also be corrected; and appropriate measures will be implemented to identify and eliminate the source. No active or technical devices are proposed to control run-on and run-off systems at the John's Valley Sanitary Landfill. Best management practices will be implemented to minimize infiltration and assure the integrity of the run-on/run-off system. Evaluation of the system will be made during the quarterly inspections, and corrective measures, if any, will be implemented. Run-on and run-off from events smaller than the 25-year storm will be controlled.

Design changes and expansion of the Johns Valley Landfill to a Class I facility as part of the permit renewal process of 2007 have resulted in the construction of lined cells and the development of a leachate collection trench. As part of the future, final phase of the landfill and closure design process, leachate generation data will be evaluated, and an evaporation pond

capable of dissipating leachate that will be generated over the closed period will be designed and constructed. Leachate management options may also include disposal at an approved wastewater treatment facility. Closed portions of the landfill will be inspected as part of the quarterly reviews performed by the landfill operator. Closed areas will also be inspected as part of the in-depth annual inspection. Any deficiencies will be repaired as soon as practical. For those failures which jeopardize the environmental integrity of the facility or permit the uncontrolled infiltration of significant amounts of moisture, corrective measures will be initiated immediately.

No alternate land use for closed sections has been developed to date. Closed cells will remain under the jurisdiction of the landfill manager. If alternate land use plans are developed they will be addressed during the permit renewal process, or a separate permit modification may be processed.

### **RESPONSIBLE PARTIES**

The applicant, property owner, and responsible party for the post closure care period is:

Garfield County  
Garfield County Courthouse  
55 South Main  
P. O. Box 77  
Panguitch, UT 84759  
Phone: (435) 676-8826  
Fax: (435) 676-8239

It should be noted Garfield County is continually upgrading solid waste management services. Future agreements, potential special service district creation, the extended life of the landfill, and alternate ownership/operation scenarios may require modification of this section of the permit. In addition, the County may contract site operations with private entities. Garfield County will notify the Executive Secretary of any changes in responsible party status at least 30 days prior to their effective date. Other changes to the information listed above will be provided in annual reports and permit renewal documents.

