



FACT SHEET

(Pursuant to the Solid Waste Disposal Regulations of the Nevada Administrative Code [NAC] 444.641.3[b])

Permittee Name: Esmeralda County

Facility Name: Goldfield Sanitary Landfill

Permit Number: SW046R02

Description of Proposed Permit Modification

None at this time

Location Information

The Esmeralda County Class II Landfill at Goldfield lies 1.3 miles northwest of Goldfield, Nevada. The Property consists of 20 acres in the NW1/4NE1/4NE1/4 AND NE1/4NW1/4NE1/4, SEC. 33, T2S, R42E. The facility boundary and land use of the surrounding areas and surface drainage channels are shown on the Montezuma Peak, Nevada map. Surrounding land is used primarily as open range, and the site is not zoned.

Proposed Action

None at this time

Facility Summary

DISCUSSION OF GOLDFIELD DEMOGRAPHICS

Goldfield, Nevada, is situated within Esmeralda County which covers more than 3,570 square miles. This rural county consists of three distinct political and geographical areas: Goldfield, Fish Lake Valley, and Silver Peak. Approximately 1,500 people live in the County. Citizens earn their living through agriculture, mining and mineral development, some construction activities, and various services, including local government and utilities. Long distances separate the three major communities, and much of the commercial activity takes place in neighboring Nye County. However, the population prides itself on being independent and unique.

PLANS AND SPECIFICATIONS FOR THE FACILITY

Site Plan

In order to keep costs to a minimum, the Landfill has been designed to best utilize the existing topography, drainage, and soils.

Utilization of Slopes

The site slopes gently at three percent to the east north east. Units have been designed to use the natural slope to direct drainage away from the active area and away from the surface of the final cover.

Potential run-on will be directed away from the Landfill by berms and ditches to existing natural washes. Precipitation that falls within the Landfill will be contained by the berms on the perimeter. Sheetflow from most of the surrounding areas is naturally channeled into washes on the west and south of the property.

Use of Local Soils

Compacted waste will be covered with six inches of natural soils. Cover will be applied daily or as needed on a schedule approved NDEP. The soils used will be silty, gravelly sands excavated from the alluvial fans that mantle the Landfill site.

Areas of compacted waste left inactive for more than 90 days will be covered by an additional twelve inches of intermediate cover obtained from the same source as the daily cover materials.

Daily, intermediate, and final cover will be obtained from the stockpiled soil excavated from the trenches during Phase I and from the borrow and fill areas. The total amount of soil needed for cover material at the site



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is shown in the following table:

Excavation and Fill Design

A series of east-west elongated trenches, 8 feet deep and 75 feet wide by 280 to 400 feet long at ground level, will form the First Phase of the Landfill. Excavation and fill areas will occupy When all trenches have been excavated and filled, the Second Phase will be an area method fill constructed above ground.

A series of 108 units, each composed of four 300 cubic yard capacity cells, will be placed over the filled trenches (see section 3.2.5 for details). These above ground units will receive final cover as they are completed, in order to minimize the area requiring final closure. See Attachment 4, Figures 3 and 4.

Grading and Elevations

Soil and borrow areas will be located at the east and west ends of the Landfill (see Attachment 4, Figure 1). These areas will be 400 feet long by 100 feet wide, offset 25 feet from the property line. Materials for the final cover will be excavated from these areas after the supply of stockpiled soil excavated from the trenches has been depleted. After final cover has been placed, the borrow areas will be graded so that run-off from within the closed Landfill will be diverted into the borrow areas and retained on the Landfill property.

Final Cover Design

The lowermost portion of a standard final cover system is an "infiltration layer" constructed from 18 inches of earthen material with a permeability of no greater than that of natural soils under the Landfill unit, or 10"5 cm/second, whichever is less.

Selected onsite soils will be used to construct the infiltration layer. If the natural permeability of the selected soils proves to be too high for use as final cover, permeability specifications will be met by mixing the native soils with bentonite or other low-permeability material.

Leachate Control System

Neither a liner nor a leachate control system will be necessary at this site. The depth to ground water, a semiarid climate, the presence of confining soil layers below the Landfill, and a high evaporation rate all combine to protect ground water from contamination.

Trenches: Phase I

Trenches will be excavated from east to west in numerical order from one to 15. Each trench will be excavated to a maximum depth of eight feet and a maximum length of either 280 feet (trenches 1-5), or 400 feet (trenches 6-15). The width at the top of each trench will be 75 feet, tapering to 69 feet at the bottom of the trench. The three foot offset from top to bottom will ensure the stability of the sidewalls.

The trenches will be filled as follows:

Materials excavated from Trench 1 will be placed over the closest borrow area. Some of this soil will then be used for daily and intermediate cover in Trench 1.

The first layer of waste will consist of three feet of refuse compacted to a density of approximately 1000 pounds/cubic yard. The layer will be laid down across the full width of the trench with a maximum depth of three feet per day.

A second three foot layer of refuse will be applied once the first lift is complete, followed by six inches of daily cover materials. After two such lifts are completed, an intermediate cover consisting of an additional 12 inches of daily cover materials will be added.



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As Trench 2 is excavated, the soil should be stored in the closest borrow area or over finished portions of Trench 1. This soil will be used for daily and intermediate cover in Trench 2 and will also aid in compaction of Trench 1. Soil excavated from Trench 3 will be placed over finished portions of Trench 2, and so forth.

Once all the trenches have been completed, any excess soil will have been placed in the two borrow areas.

Area Method: Phase II

A total of 108 units will be constructed during this phase of the Landfill. Each completed unit will consist of 3 three-foot lifts of refuse, and 3 six-inch layers of daily cover.

The first unit will be constructed in the northwest corner of the Landfill. The units should be filled in quarters measuring a maximum of 30 feet by 30feet. The first three feet of refuse will be placed in the north west quarter of each unit, and then covered daily.

Three feet will then be placed in the adjacent quarter to the east and covered. The next three feet of refuse will be placed to the south of the second, and then to the west to complete the unit's first lift. The Landfill operator will then construct the adjacent unit of compacted waste and cover it with daily cover materials. This cycle repeats for three lifts of refuse. If compacted waste is to be left without final cover for 90 days or more, intermediate cover will be placed over the first two units, and a third unit will be started.

Once four (4) units have been completed, final cover may be placed in order to minimize the active area of the Landfill.

Access Roads

Access to the Landfill will be through a gate at the southeast corner of the property. Vehicles may access the White Goods Area by the 75-foot alley between the trenches and the area.

Trenches will be accessed only from ramps at the east edge of each trench. Vehicles will not be allowed to drive to the side or between the trenches.

When Phase II begins, vehicles will be directed over a compacted area to the unit being constructed.

Typical Section of the Landfill

A section at the center of the completed Landfill would show a trench 8 feet deep covered by the area method prism extending 12.5 feet above ground level.

The area below ground would consist of three (3) feet of refuse, then six (6) inches of soil, a second 3-foot lift of refuse, six (6) inches of daily cover soil, then an additional 12 inches of intermediate cover. Above ground there will be 3 three-foot thick layers of refuse with six (6) inches of daily cover material over each. Final cover will consist of an eighteen-inch thick infiltration layer covered by a six-inch thick vegetation layer of soil.

The Landfill has sufficient capacity to be the sole refuse center for the County. To ensure long life and to minimize the potential for receipt of illegal wastes, wastes generated from outside the County will not be accepted for disposal.

TYPES, QUANTITIES, AND SOURCES

The amount of refuse and life of the Landfill were calculated from population estimates in the County's SWMP. Private homes or small businesses will generate most of the refuse. A value of 4.1 pounds per day per person of municipal waste was the basis for waste volume calculations.



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Although mining is the largest employer and industry in the County, most mines have their own waste disposal facilities. Household waste, agricultural waste, dead animals, used tires, bagged and containerized asbestos and white goods will be accepted in the Landfill. Hazardous wastes will not be accepted.

GENERAL RESTRICTIONS

Accessibility

A graded dirt road provides access to the Landfill site. The road will be surfaced with gravel to limit erosion and dust.

Pollution Prevention

The Landfill is designed to contain any possible contaminants within its boundaries. Properties and climate minimize the likelihood of underground migration of contaminants

Gas Migration

The types and relatively small amounts of expected refuse, plus the low annual rainfall, mean that very little gas should be generated. Any gas that forms should safely vent through permeable cover materials and dissipate into the atmosphere.

In order to detect any possibility of gas build-up, a quarterly monitoring program will be implemented as outlined in section 7.12.3.2.

Land Use and Cover Materials

The Landfill is located 1.3 miles northwest from the town of Goldfield, Nevada. The area is surrounded by mostly vacant land. A barn at West Spring, used for watering livestock, is the closest structure. No inhabited structures exist within a one mile radius.

Soils needed for final cover will be excavated from within the Landfill property at the borrow/fill areas indicated on the plan view map. The soil in this area contains little or no organic material and will not be conducive to harboring or breeding disease vectors.

Dwellings and Ground Water

The closest inhabited dwelling is greater than one mile away—well beyond the required 1,000 feet from the Site. No public highway or surface water bodies are within 1,000 feet. The only nearby indicator of ground water, West Spring, is over 2,000 feet away. West Spring issues from the base of a perched aquifer, emerging at an elevation of 5,840 feet, 40 to 80 feet higher than the Landfill. Therefore, no Landfill leachate could naturally reach this water source.

Soil conditions at the Landfill site are well suited for its construction. The soils consist of alluvial fill overlying Tertiary (1.6 million years and older) fluvial conglomerates and sandstones derived from volcanic rocks, with many layers having poor permeability.

The alluvial soils contain well-stratified clay, silt, sand and gravel, with some poorly consolidated layers of fine grained soils containing mixtures of sand, silt and clay. Bedrock formations in the Goldfield area are mostly derived from ancient volcanic activity, with some ridges of volcanic rocks exposed to the west and south of the site. The regional trend of uplifted ranges indicate localized right lateral shear that is Tertiary in age. Recent (Holocene) faulting has not been recognized in the area of the Landfill site. All indications are that the underlying formations and the alluvial cover are stable. Although the region has been heavily mined and explored, most of this activity has taken place to the west in the Montezuma range, and to the east and south in the Goldfield hills and foothills.



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HYDROGEOLOGY

SUMMARY OF SITE CONDITIONS

Geology of Esmeralda County

Esmeralda County is located in the west central portion of the state of Nevada; it has a land area of 3,570 square miles. It is bordered on the southwest by California, on the northwest by Mineral County, and to the northeast and east by Nye County.

Elevations in Esmeralda County range from 4,000 feet at Bonnie Claire Flat to 13,143 feet at Boundary Peak near the California border. The landscape types are mostly high desert and some moderately forested areas in the higher elevations. Valleys occur as flat playas or marshes formed by basin and range extension followed by subsequent erosion and deposition.

The region, characterized by a volcanic center which forms the mountain peaks, has outcrops composed of mostly rhyolite and andesite volcanic rocks. Some very ancient sedimentary rocks occur to the south and north that were formed in Cambrian or Ordovician times. The region is bounded on the west by granitic rocks of the Sierra Nevada batholith.

The gentle slopes and valleys are covered by sandy, clayey and silty alluvial gravel soils cut by minor drainages and washes.

Site Geology

The twenty acre Landfill site is located in a valley bounded by the Malapais Mesa to the south and west, and the Montezuma Range to the west and northwest. Malapais Mesa consists of Tertiary rocks that are part of the Thirsty Canyon Tuff. Rocks in the Montezuma mountains and foothills, formed also in the Tertiary period, consist of tuffaceous shales and tuffs overlain by resistant rhyolite flows that form peaks.

The Landfill site itself is underlain by at least ten feet of recent alluvial sediments and silty, gravelly sands of the Siebert Tuff, a tuffaceous sedimentary rock of lacustrine (lake) origin. Both of these units overlie the Pozo formation, dominantly a poorly consolidated conglomerate with subordinate soft sandstone, which ranges in thickness from 50 to 200 feet.

PLAN FOR POST CLOSURE

The County will provide post closure activities for continued maintenance and monitoring of land and gases for 30 years, only minor quantities of landfill gases are expected to be generated after closure. Landfill settlement should also be minor. Initial post closure monitoring is designed to test the hypotheses.

Landfill gases generally consist of methane and carbon dioxide in approximately equal quantities, with minor amounts of other gases. The presence of gas is easily detected by monitoring for methane, a combustible gas.

Any gas production would be found by a hand-held detector according to the monitoring procedure established in the Plan of Operation. The Landfill will be monitored for methane quarterly for the first year after closure.

After the first year of closure, methane monitoring will be done annually. If no methane is detected during the first five years after closure, the NDEP will be petitioned for permission to suspend gas monitoring.

Land Monitoring

The Landfill will be observed quarterly for the first year after closure. Landfill topography will be visually checked for depressions that could result in ponding or rapid erosion. Irregularities in the surface of the final



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cover will be regraded and revegetated as required to eliminate ponding or rapid erosion.

Side slopes will be maintained or reestablished with a maximum gradient of 3:1 (horizontal: vertical). The top of the Landfill will be maintained or reestablished with a grade of no less than three percent (convex upward surface) to eliminate ponding.

After the first year of closure, land monitoring will be annual. If no settlement or rapid erosion has been detected after five years, the NDEP will be petitioned for permission to discontinue land monitoring or reduce its frequency.

Unscheduled monitoring of the Landfill surfaces will be conducted after any 25-year storm at Goldfield, Nevada or within five miles of the Landfill site.

Due to the County's semiarid climate, maintenance of closure cover and run-on and run-off systems should be minimal. Final cover and run-on/run-off control structures will be inspected periodically under the schedule provided for in the Closure Plan.

Run-on/run-off control structures and final cover could be damaged by an unusually intense storm. Therefore, an unscheduled inspection will be instigated after any occurrence of a 25-year or greater storm event at Goldfield or within a five-mile radius.

If the post-storm inspection shows damage to either the final cover or run-on/run-off control structures, the damage will be appraised by a professional engineer.

When post closure activities are complete, as determined by the NDEP, the O/O will submit a certification to the NDEP, signed by the owner or operator and a professional engineer which states why post closure activities are no longer necessary (i.e., little or no settlement, gas production, or leachate generation).

Post Closure Land Use

A description of the Landfill's history and filled areas will be permanently appended to the record of title at closure. Land use restrictions will be assigned that conform to regulations for closed landfills.

Document Availability

The ADMINISTRATIVE RECORD, which includes the DRAFT PERMIT, and correspondence are available for public review by appointment between 8:00 AM and 5:00 PM, Monday through Friday, at the Division offices located at: 901 S. Stewart St., Suite 4001, Carson City, NV 89701-5249.

Contact: Paul Eckert at (775) 687-9477, or by e-mail at: PEckert@ndep.nv.gov

Procedure for Public Review

Questions or comments may be submitted on or before the end of the public comment period.

In writing: Paul Eckert, P.E.
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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

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The Division's Notice of Intent to approve the modified Permit for this facility, subject to the conditions contained in the Permit, will be published in a local newspaper. Additionally, the Public Notice will be mailed to interested persons on our mailing list. The Division will accept written comments on the proposed draft permit from all interested persons until the end of the public comment period.

Will there be a public hearing?

N/A

When does the comment period end?

N/A