HAND DELIVERED

MAY 2 1 2009

UTAH DIVISION OF
SOLID & HAZARDOUS WASTE
2009.01590

# INTREPID POTASH - MOAB, LLC
# MOAB, UTAH

## Application for
## Class IIIb Landfill
## Permit Renewal

**Permit # 0401**

Prepared For:
Intrepid Potash - Moab, LLC
15 Miles South Highway 279
Moab, Utah

Prepared by:
JBR Environmental Consultants, Inc.
8160 South Highland Drive
Sandy, Utah 84093
801-943-4144

*Submitted May 2009*

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UTAH DIVISION OF SOLID & HAZARDOUS WASTE

# Utah Class III Landfill Permit Application Form

**Part I General Information** APPLICANT: PLEASE COMPLETE ALL SECTIONS

| I. Landfill Type | II. Application Type | |
|---|---|---|
| ☐ Class IIIa<br>☒ Class IIIb | ☐ New Application<br>☒ Renewal Application | ☐ Facility Expansion<br>☐ Modification |

For Renewal Applications, Facility Expansion Applications and Modifications Enter Current Permit Number 0401

**III. Facility Name and Location**

Legal Name of Facility: Intrepid Potash-Moab, LLC

| Site Address (street or directions to site) | County | | | |
|---|---|---|---|---|
| 15 Miles South of Highway 279 | Grand | | | |
| City: Moab | State: UT | Zip Code: 84532 | Telephone: (435) 259-7171 | |
| Township: 26S | Range: 20E | Section(s): 25 | Quarter/Quarter Section: SE1/4 | Quarter Section: NW1/4 |
| Main Gate Latitude: degrees 38 | minutes 30 | seconds 53 | Longitude: degrees 109 | minutes 39 seconds 50 |

**IV. Facility Owner(s) Information**

Legal Name of Facility Owner: Intrepid Mining, LLC

| Address (mailing) | | | |
|---|---|---|---|
| 707 17th Street, Suite 4200 | | | |
| City: Denver | State: CO | Zip Code: 80202 | Telephone: (303) 296-3006 |

**V. Facility Operator(s) Information**

Legal Name of Facility Operator: Intrepid Potash-Moab, LLC

| Address (mailing) | | | |
|---|---|---|---|
| P. O. Box 1208 | | | |
| City: Moab | State: UT | Zip Code: 84532 | Telephone: (435) 259-7171 |

**VI. Property Owner(s) Information**

Legal Name of Property Owner: Intrepid Mining, LLC

| Address (mailing) | | | |
|---|---|---|---|
| 707 17th Street, Suite 4200 | | | |
| City: Denver | State: CO | Zip Code: 80202 | Telephone: (303) 296-3006 |

**VII. Contact Information**

| | | | |
|---|---|---|---|
| Owner Contact: Robert Jornayvaz | | Title: | |
| Address (mailing): 707 17th Street, Suite 4200 | | | |
| City: Denver | State: CO | Zip Code: 80202 | Telephone: (303) 296-3006 |
| Email Address: | | Alternative Telephone (cell or other): | |
| Operator Contact: Eric K. York | | Title: General Manager - Utah Division | |
| Address (mailing): P. O. Box 1208 | | | |
| City: Moab | State: UT | Zip Code: 84532 | Telephone: (435) 259-7171 |
| Email Address: rick.york@intrepidpotash.com | | Alternative Telephone (cell or other): | (435) 259-1201 |
| Property Owner Contact: Robert Jornayvaz | | Title: CEO | |
| Address (mailing): 707 17th Street, Suite 4200 | | | |
| City: Denver | State: CO | Zip Code: 80202 | Telephone: (303) 296-3006 |
| Email Address: | | Alternative Telephone (cell or other): | |

# Utah Class III Landfill Permit Application Form

## Part I General Information (Continued)

### VIII. Waste Types (check all that apply)

☐ All types of non-hazardous industrial waste generated by the facility **OR** the following specific waste types

| Waste Type | Combined Disposal Unit | Monofill Unit |
|---|---|---|
| ☐ Construction & Demolition | ☐ | ☐ |
| ☒ Industrial | ☐ | ☐ |
| ☐ Incinerator Ash | ☐ | ☐ |
| ☐ Animals | ☐ | ☐ |
| ☒ Asbestos | ☐ | ☐ |
| ☐ Other _____ | ☐ | ☐ |

Note: All waste types must be generated by the industry which owns the facility

### IX. Facility Area

Facility Area..... 2.0 acres

Disposal Area..... 2.0 acres

Design Capacity

Years..... 19.2

Cubic Yards..... 50.000

Tons..... _____

### X. Fee and Application Documents

Indicate Documents Attached To This Application ☒ Application Fee: Amount $100.00

| | | | |
|---|---|---|---|
| ☒ Facility Map or Maps | ☒ Facility Legal Description | ☒ Plan of Operation | ☒ Waste Description |
| ☐ Ground Water Report | ☒ Closure Design | ☒ Cost Estimates | ☐ Financial Assurance |

I HEREBY CERTIFY THAT THIS INFORMATION AND ALL ATTACHED PAGES ARE CORRECT AND COMPLETE.

| | | |
|---|---|---|
| Signature of Authorized Owner Representative: Eric K. York<br>Eric K. York<br>Name typed or printed | Title: General Manager | Date: 5/18/09 |
| | Address: P. O. Box 1208, Moab, UT 84532 | |
| Signature of Authorized Land Owner Representative (if applicable)<br>Name typed or printed | Title | Date |
| | Address | |
| Signature of Authorized Operator Representative (if applicable)<br>Name typed or printed | Title | Date |
| | Address | |

# Utah Class III Landfill Permit Application Checklist

**Important Note:** The following checklist is for the permit application and addresses only the requirements of the Division of Solid and Hazardous Waste. Other federal, state, or local agencies may have requirements that the facility must meet. The applicant is responsible to be informed of, and meet, any applicable requirements. Examples of these requirements may include obtaining a conditional use permit, a business license, or a storm water permit. The applicant is reminded that obtaining a permit under the *Solid Waste Permitting and Management Rules* does not exempt the facility from these other requirements.

An application for a permit to construct and operate a landfill is documentation that the landfill will be located, designed, constructed, operated, and closed in compliance with the requirements of Rules R315-304 of the *Utah Solid Waste Permitting and Management Rules* and the *Utah Solid and Hazardous Waste Act* (UCA 19-6-101 through 123). The application should be written to be understandable by regulatory agencies, landfill operators, and the general public. The application should also be written so that the landfill operator, after reading it, will be able to operate the landfill according to the requirements with a minimum of additional training.

Copies of the *Solid Waste Permitting and Management Rules*, the *Utah Solid and Hazardous Waste Act*, along with many other useful guidance documents can be obtained by contacting the Division of Solid and Hazardous Waste at 801-538-6170. Most of these documents are available on the Division's web page at www.hazardouswaste.utah.gov. Guidance documents can be found at the solid waste section portion of the web page.

When the application is determined to be complete, the original complete application and one copy of the complete application are required along with an electronic copy.

***Part II*** **Application Checklist**

| *I.* Facility General Information | |
|---|---|
| Description of Item | Location In Document |
| *Ia.* General Information For - All Facilities | |
| Completed Part I General information | Page 3 |
| General description of the facility (R315-310-3(1)(b)) | Page 3 |
| Legal description of property (R315-310-3(1)(c)) | Page 3 |
| Proof of ownership, lease agreement, or other mechanism (R315-310-3(1)(c)) | Attachment B |
| A demonstration that the landfill is not a commercial facility | Page 4 |
| Waste type and anticipated daily volume (R315-310-3(1)(d)) | Page 4 |
| Intended schedule of construction (R315-302-2(2)(a)) | Page 4 |
| *Ib.* General Information - New Or Laterally Expanding Class III Landfills | |
| Documentation that the facility has meet the historical survey requirement of R315-302-1(2)(f) (R315-305-4(1)(b) or R315-305-4(2)(a)(iv)) | NA |
| Name and address of all property owners within 1000 feet of the facility boundary (R315-310-3(2)(i)) | NA |
| Documentation that a notice of intent to apply for a permit has been sent to all property owners listed above (R315-310-3(2)(ii)) | NA |
| Name of the local government with jurisdiction over the facility site (R315-310-3(2)(iii)) | NA |

| *I.* Facility General Information | |
|---|---|
| Description of Item | Location In Document |
| *Ic.* Location Standards - New Class IIIa Landfills (R315-304-4(1)) | |
| Geology | NA |
| Geologic maps showing significant geologic features, faults, and unstable areas | NA |
| Maps showing site soils | NA |
| Surface water | NA |
| Magnitude of 24 hour 25 year and 100 year storm events | NA |
| Average annual rainfall | NA |
| Maximum elevation of flood waters proximate to the facility | NA |
| Maximum elevation of flood water from 100 year flood for waters proximate to the facility | NA |
| Wetlands | NA |
| Ground water | NA |
| Historic Preservation Survey | NA |
| *Id.* Additional Location Standards - New Class IIIa Landfills Not On Waste Generation Site | |
| Land use compatibility (R315-304-4(1)(a)) | NA |
| Maps showing the existing land use, topography, residences, parks, monuments, recreation areas or wilderness areas within 1000 feet of the site boundary | NA |
| Certifications that no ecologically or scientifically significant areas or endangered species are present in site area | NA |
| List of airports within five miles of facility and distance to each | NA |
| *Ie.* Location Standards - New Class IIIb Landfills | |
| Floodplains as specified in R315-302-1(2)(c)(ii) (R315-304-4(2)(a)(i)) | NA |
| Wetlands as specified in R35-302-1(2)(d) (R315-304-4(2)(a)(ii)) | NA |
| The landfill is located so that the lowest level of waste is at least ten feet above the historical high level of ground water (R315-304-4(2)(a)(iii)) | NA |
| Historical Preservation Survey (R315-304-4(2)(a)(iv)) | |
| *If.* Plan of Operations - All Class III Landfills (R315-310-3(1)(e) and R315-302-2(2)) | |
| Description of on-site waste handling procedures and an example of the form that will be used to record the weights or volumes of waste received (R315-302-2(2)(b) And R315-310-3(1)(f)) | Page 7 |
| Schedule for conducting inspections and monitoring, and examples of the forms that will be used to record the results of the inspections and monitoring (R315-302-2(2)(c), R315-302-2(5)(a), and R315-310-3(1)(g)) | Page 7 |

| *I.* Facility General Information | |
|---|---|
| Description of Item | Location In Document |
| Contingency plans in the event of a fire or explosion (R315-302-2(2)(d)) | Page 7 |
| Plan to control fugitive dust generated from roads, construction, general operations, and covering the waste (R315-302-2(2)(g)) | Page 7 |
| Plan for letter control and collection (R315-302-2(2)(h)) | Page 8 |
| Procedures for excluding the receipt of prohibited hazardous or PCB containing wastes (R315-302-2(2)(j)) | Page 8 |
| Procedures for controlling disease vectors (R315-302-2(2)(k)) | Page 8 |
| A plan for alternative waste handling (R315-302-2(2)(l)) | Page 8 |
| A general training and safety plan for site operations (R315-302-2(2)(o)) | Page 9 |
| Any recycling programs planned at the facility (R315-303-4(6)) | Page 9 |
| Any other site specific information pertaining to the plan of operation required by the Executive Secretary (R315-302-2(2)(p)) | NA |
| *Ig.* Ground Water Monitoring - Class IIIa landfills | |
| Ground Water Monitoring Plan (R315-304-5(4)(a) | NA |
| *II* Facility Technical Information | |
| *IIa.* Maps - All Class III Landfills | |
| Topographic map drawn to the required scale with contours showing the boundaries of the landfill unit, ground water monitoring well locations, gas monitoring points, and the borrow and fill areas (R315-310-4(2)(a)(i)) | Attachment A |
| Most recent U.S. Geological Survey topographic map, 7-1/2 minute series, showing the waste facility boundary; the property boundary; surface drainage channels; any existing utilities and structures within one-fourth mile of the site; and the direction of the prevailing winds (R315-310-4(2)(a)(ii)) | Attachment A |
| *IIb.* Geohydrological Assessment - Class IIIa Landfills (R315-310-4(2)(b)) | |
| Local and regional geology and hydrology including faults, unstable slopes and subsidence areas on site (R315-310-4(2)(b)(i)) | NA |
| Evaluation of bedrock and soil types and properties including permeability rates (R315-310-4(2)(b)(ii)) | NA |
| Depth to ground water (R315-310-4(2)(b)(iii)) | NA |
| Quantity, location, and construction of any private or public wells on-site or within 2,000 feet of the facility boundary (R315-310-4(2)(b)(v)) | NA |
| Tabulation of all water rights for ground water and surface water on-site and within 2,000 feet of the facility boundary (R315-310-4(2)(b)(vi)) | NA |

| *I.* Facility General Information | |
|---|---|
| Description of Item | Location In Document |
| Identification and description of all surface waters on-site and within one mile of the facility boundary (R315-310-4(2)(b)(vii)) | NA |
| For an existing facility, identification of impacts upon the ground water and surface water from leachate discharges (R315-310-4(2)(b)(viii)) | NA |
| Calculation of site water balance (R315-310-4(2)(b)(ix)) | NA |
| *IIc.* Engineering Report - Plans, Specifications, And Calculations - All Class III Landfills | |
| Unit design to include cover design; fill methods; and elevation of final cover including plans and drawings signed and sealed by a professional engineer registered in the State of Utah, when required (R315-310-3(1)(b)) | Page 9 |
| Design and location of run-on and run-off control systems (R315-310-5(2)(b)) | Page 10 |
| *IId.* Engineering Report - Plans, Specifications, And Calculations - Class IIIa Landfills | |
| Engineering reports required to meet the location standards of R315-304-4 including documentation of any demonstration or exemption made for any location standard (R315-310-4(2)(c)(i)) | NA |
| Anticipated facility life and the basis for calculating the facility's life (R315-310-4(2)(c)(ii)) | NA |
| Equipment requirements and availability (R315-310-4(2)(c)(iii)) | NA |
| Identification of borrow sources for daily and final cover and for soil liners (R315-310-4(2)(c)(iv)) | NA |
| Run-off treatment and disposal and documentation to show that any treatment system is being or has been reviewed by the Division of Water Quality (R315-310-4(2)(c)(v) and R315-310-3(1)(i)) | NA |
| *IIe.* Closure Requirements - All Class III Landfills | |
| Closure plan (R315-310-3(1)(h)) | Page 13 |
| Closure schedule (R315-310-4(2)(d)(i)) | Page 17 |
| Design of final cover (R315-310-4(2)(c)(iii)) | Page 15 |
| Capacity of site in volume and tonnage (R315-310-4(2)(d)(ii)) | Page 17 |
| Final inspection by regulatory agencies (R315-310-4(2)(d)(iii)) | Page 17 |
| *IIf.* Post-Closure Care Requirements - All Class III Landfills | |
| Post-closure care plan (R315-310-3(1)(h)) | Page 20 |
| Changes to record of title, land use, and zoning restrictions (R315-310-4(2)(e)(ii)) | Page 19 |
| Maintenance activities to maintain cover and run-on/run-off control systems (R315-310-4(2)(e)(iii)) | Page 20 |

| *I.* Facility General Information | |
|---|---|
| Description of Item | Location In Document |
| List the name, address, and telephone number of the person or office to contact about the facility during the post-closure care period (R315-310-4(2)(e)(vi)) | Page 18 |
| *IIg.* Financial Assurance Requirements - All Class III Landfills | |
| Identification of closure costs including cost calculations (R315-310-4(2)(d)(iv)) | Attachment 2 |
| Identification of post-closure care costs including cost calculations (R315-310-4(2)(e)(iv)) | Attachment 2 |
| Identification of the financial assurance mechanism that meets the requirements of Rule R315-309 and the date that the mechanism will become effective (R315-309-1(1) and R315-310-3(1)(j)) | |

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# Table of Contents

**INTRODUCTION**

**CLOSURE PLAN AND POST CLOSURE PLAN**

Attachment #1 – Post-Closure Inspection Form
Attachment #2 – Closure and Post Closure Cost Calculations
Attachment #3 – Financial Assurance Mechanism
Attachment #4 – Landfill Closure Plan, Final Facility Topography

**APPENDICES**

A Maps

Figure 1 – Topographic Map of Landfill (View 1)
Figure 2 – Topographic Map of Landfill (View 2)
Figure 3 – Aerial Photo
Figure 4 – Facility Diagram
Figure 5 – Site Diagram

B Statement of Ownership

C Log sheets

Section 1 – Landfill Daily Use
Section 2 – Monitoring and Inspections

D General Site Safety and Training Plan Landfill Addendum

## FACILITY GENERAL INFORMATION

On behalf of Intrepid Potash - Moab, LLC (IPM) JBR Environmental Consultants, Inc. (JBR) is submitting this modified *Checklist for Class IIIb Landfill Permit Renewal.* IPM is submitting the enclosed application for a landfill permit renewal to accept construction debris, scrap metal, and asbestos containing materials that are routinely removed during renovation and demolition projects.

### General description of the facility (R315-310-3 (1)(b))

IPM owns and operates a salt and potash solution mine located approximately 15 miles south on Highway 279, Moab, Utah. The mine has approximately 20 buildings/structures that are in current use and several building/structures that are not utilized for the mining/process operations. Approximately 10 structures have Galbestos® sheeting that is used as siding and/or roofing for the structures. The Galbestos® sheeting in good condition is considered a non-friable Asbestos Containing Material (ACM). During removal however, this material may become friable and is handled as such. Due to weatherization and age of the sheeting on some of the structures, IPM plans to replace the exterior siding of these structures with non-ACM sheeting.

To the southwest of the main office is the current salt tailings pond/area. See Appendix A for maps of this location. During normal operations, IPM continuously dissolves the salt tailings and then the solution is pumped back into the mine for eventual harvesting within the mine evaporation ponds. Part of this area, which lies up gradient and to the south of the salt tailings, has been developed as a previously permitted Class IIIb landfill (Figure 1). Due to the upcoming demolition projects, IPM will expand the current area of the asbestos cell but will remain within the 2.3 acre boundary set within the original permit. The expansion area will have the appropriate fencing and signage posted prior to placement of ACM into this area.

### Legal description of the facility (R315-310-3(1)(c))

The legal description of the onsite landfill is:

SE1/4 of NW1/4 Section 25, Range 20 East Township 26 South

A statement of ownership is located in Appendix B.

Land use in the surrounding area consists of recreational jeep, biking and hiking trails. There is a State of Utah monument (Dead Horse Point) located approximately 2.5 miles southwest of the site. Arches National Park is approximately 20 miles to the northeast. Aside from the nearby town of Moab, most of the surrounding area is in its undisturbed, natural state.

## Types of waste and area served by the facility (R315-310-3(1)(d))

The landfill has accepted non-hazardous waste that is or has been generated at the mine site. IPM estimates that there will be approximately 27 tons of material accepted yearly at the facility. The following non-hazardous solid wastes will be accepted at the facility:

1) Galbestos® sheeting and other ACM waste,
2) Obsolete equipment,
3) Pallets,
4) Concrete,
5) Iron and other non-recyclable scrap metal,
6) Asphalt, and
7) Other construction/demolition non-hazardous waste.

All municipal solid waste including paper, cardboard, food and other office wastes will be placed into the existing dumpster and will transported to the Moab City Municipal Landfill for proper waste disposal.

Within the plant, the operators have been trained to know and understand the limitations on waste that can be deposited in the landfill. There are trained employees assigned to monitor the acceptance of material for disposal. No other wastes will be accepted; therefore, this landfill is not a commercial landfill and no other areas will be served.

**Intended schedule of construction (R315-302-2(2)(a))**

The cell has been constructed and an As-built Construction letter was submitted to the Utah Solid & Hazardous Waste Control Board on February 28, 2005, please refer to Attachment A for a copy of this letter. The cell was constructed southeast of the existing salt tailings pond as identified in Attachment A. IPW intends to expand the area of the asbestos disposal section of the cell. Please refer to Figure 1 for the location of the expanded area within the permitted 2.3 acre cell. Additional fencing will be installed around the expansion area with appropriate signage and following appropriate waste handling procedures for ACM waste. The fencing will be installed after the permit has been received, but no later than 18 months after the permit is issued.

**LOCATION STANDARDS of R315-304-4(2):**

The landfill is located within the same canyon of the salt tailing area which is southeast of the salt tailings pond. The landfill is elevated above the general topography such that, it will have no adverse impact on the floodplain, is not located within any wetland, and, at its lowest level, is greater than ten feet above the historical high level of ground water. Perched groundwater is approximately 90 feet below the designated cell area. Attachment A shows the location of the landfill relative to the mine process area. The topography of the site allows any storm water run-off to by-pass the site utilizing preexisting topography. The existing channel is located to the east and up gradient of the cell.

**Floodplains as Specified in R315-302-1(2)(c)(ii) (R315-304-4(2)(a)(i))**

Based on JBR inspection of the landfill location, there are no floodplains that will be impacted within the cell location.

**Wetlands as Specified in R315-302-1(2)(d) (R315-304-4(2)(a)(ii))**

The landfill is located within an existing salt tailings area. There are no wetlands present within the cell location.

**Location to Historical High Level of Groundwater (R315-304-4(2)(a)(iii))**

Precipitation at the mine site is approximately 7 inches per year, most of which occurs in sudden summer thunderstorms. Much of this precipitation is lost in runoff toward the Colorado River, approximately one mile east of the landfill. Rocks above the elevation of the river are generally unsaturated while rocks below the elevation of the river are generally considered to be saturated. Regional groundwater in the mine area and below the elevation of the river is assumed to flow toward the east and the river.

A review of the hydrogeology of the IPM property by Dr. Huntoon concluded there were no underground sources of drinking water within an area extending at least two miles from the perimeter of the salt mine (P. Huntoon, 1985). The rocks under the mine site to a depth of approximately 850 feet are arkoses and limestones of the Permian Elephant Canyon Formation. Huntoon described the arkoses of the upper Elephant Canyon Formation as having low primary permeabilities, with the limestones in the lower portion of the formation having lower permeability than the arkoses. The limestones locally cause perched water conditions in the arkoses of the Elephant Canyon Formation. Groundwater flow in these perched zones was assumed to largely be controlled by secondary permeability in fractures. The Elephant Canyon is underlain by the Pennsylvanian Honaker Trail Formation consisting of limestone with interbedded sandstone. Huntoon categorized the Elephant Canyon and Honaker Trail formations as confining layers.

There are no known water supply wells in the Elephant Canyon Formation within the vicinity of the mine property. The mine trucks its potable water from Moab and uses river water for process makeup uses. A few seeps discharging from the Elephant Canyon in the vicinity of the mine property are small (< 1 gpm) and salty. The best description of groundwater conditions in the mine area is from the sinking of the 22-foot diameter shaft for the mine.

According to Huntoon, small amounts of perched groundwater (1-2 gpm) were produced beginning at a depth of about 90 feet of the Elephant Canyon Formation in the shaft and this water had a TDS of about 1,700 mg/l. Additional small flows of groundwater (< 0.2 to 4.3 gpm) were produced in the Elephant Canyon rocks from various depths down to about 900 feet.

Analyses of these water samples showed them to be saline with TDS values over 100,000 mg/l. Shaft sinking through the Honaker Trail Formation encountered less groundwater than in the overlying Elephant Canyon rocks. Groundwater flows to the shaft from a depth of about 1,500 to 2,200 feet were typically less than 1 gpm. All groundwater encountered in the Honaker Trail Formation was saline.

(i) Depth to Water Table

Mine records indicate that perched groundwater was encountered in the mine shaft at a depth of about 90 feet (Elevation 3940'). The elevation of the deepest part of the landfill is estimated to be 4100'.

(ii) Sole Source Aquifer

There are no sole source aquifers, as designated by 49 CFR 149, in the vicinity of the landfill. The closest sole source aquifer is the Castle Valley Aquifer system in Castle Valley approximately 22 miles from the landfill.

(iii) Class 1B Groundwater

Class IB ground water is a source of water for a community public drinking water system for which no other reliable supply of comparable quality and quantity is available because of economic or institutional constraints (R317-6-3.3). There are no Class 1B groundwater zones in the vicinity of the landfill.

(iv) Aquifer with TDS Between 1,000 and 3,000 mg/l

The rocks beneath the landfill are known to have low permeability and yield small amounts of groundwater even to large diameter borings like the mine shaft. Thus saturated sections of these rocks cannot be considered to be aquifers as commonly defined. In addition, perched groundwater at the mine site has a TDS of about 1,700 mg/l and is at a depth of over 90 feet.

(v) Drinking Water Source Protection Areas

The landfill is not located within a designated drinking water source protection area, nor is it within a 250-day groundwater travel time of an existing drinking water well or spring.

Reference:

**Huntoon, Peter. 1985. Geology and Ground Water Hydrology in the Vicinity of the Texasgulf Chemicals Company Potash Solution Mine, Grand and San Juan Counties, Utah. Submitted to the Utah Division of Water Quality for a UIC Permit.**

## PLAN OF OPERATION (R315-310-3(1)(e) and R315-302-2(2))

### Description of onsite waste handling procedures (R315-302-2(2)(b), R315-310-3(1)(f))

Onsite waste handling consists of the waste being moved to the landfill cell by forklift, truck, or hand carried. A log is kept of the type of waste placed in the landfill. See Appendix C, Section 1 for a copy of the log sheet. Cover is applied, using materials that are excavated during the landfill's preparation and that will be stored near the site. Six inches of cover material is applied at the end of the day for asbestos waste materials that are placed into the landfill. For non-asbestos waste, six inches of cover material is applied monthly or as needed depending on weather and other circumstances. Cover is applied as needed to prevent fires, blowing litter, or harboring of vectors during waste acceptance operations. Mine site entry is secured with fencing, locked gates, and controlled access.

### Schedule for conducting inspections and monitoring (R315-302-2(2)(c), R315-302-2(5)(a), and R315-310-3(1)(g))

Monitoring of the landfill occur daily during waste acceptance activities or quarterly at a minimum. In compliance with R315-303-3(1)(b), the landfill does not accept any liquid wastes and is inspected whenever there is rain-storm event. The monitoring identifies any problems or potential problems to human health or the environment. Inspections are designed to prevent malfunction or deterioration, operator errors, and discharge monitoring. A copy of the inspection log sheet is located in Appendix C, Section 2.

### Contingency plans in the event of a fire or explosion (R315-302-2-(2)(d))

The waste is not flammable. Some combustible material may exist; however, a fire or explosion in the landfill area is highly unlikely. The area is served by the City of Moab fire department, and equipment is located onsite to move soil for fire suppression, if necessary.

### A plan to control fugitive dust generated from roads, construction, and general operation and covering the waste (R315-302-2(2)(g))

Fugitive dust is controlled by prudent speed with posted speed limits. Materials deposited in the landfill are spread and compacted with native soils. After spreading the debris the equipment will make several passes over the materials for compaction. This procedure is sufficient to control fugitive dust. Although water is routinely sprayed on the salt tailings, which then migrates into the tailings pond, the area where the landfill is located is protected from this water. No water is continuously sprayed or flows into the landfill section. Cover is applied to the landfill and will consist of excavated soils from the landfill construction.

**Plan for litter control (R315-302-2(2)(h))**

The landfill accepts non-hazardous waste that is or has been generated at the mine site. The following non-hazardous solid wastes are accepted at the facility:

1) Galbestos® sheeting and other ACM waste,
2) Obsolete equipment,
3) Pallets,
4) Concrete,
5) Iron and other non-recyclable scrap metal,
6) Asphalt, and
7) Other construction/demolition non-hazardous waste.

All municipal solid waste including paper, cardboard, food and other office wastes are placed into the existing dumpster and will transported to the City of Moab Municipal Landfill for proper waste disposal. Currently, all municipal waste is collected within a roll-off and transported weekly for disposal at the City of Moab Municipal Landfill. Therefore, no debris that could cause litter will be placed in the onsite landfill.

**Procedures for excluding the receipt of Regulated hazardous or PCB containing waste (R315-302-2(2)(i))**

Hazardous waste is handled in accordance with all federal, state, and local laws. Employees are trained to identify and classify waste according to its hazard class. An active hazardous waste management plan is in place. There is also a PCB equipment management plan in-place for the proper management and disposal requirements of these materials. These materials will not be permitted for disposal at the onsite landfill.

**Procedures for controlling disease vectors (R315-302-2(2)(j))**

The waste materials in the landfill are not attractive to disease vectors or support vector habitats; therefore no special method to control them is necessary. However, the non-ACM debris to be disposed of will be placed in the landfill in lifts. Dumped materials in the landfill is spread and compacted in 1 to 1.5 foot thick layers. After spreading the debris the equipment will make several passes over the materials for compaction. This procedure is sufficient to control disease vectors. Although water is routinely sprayed on the salt tailings, which then migrates into the tailings pond, the area where the landfill is located is protected from this water. No water is continuously sprayed or flows into the landfill section.

**A plan for alternative waste handling (R315-302-2(2)(k))**

All non hazardous waste that is unable to be deposited in the onsite landfill is currently in the bone yard or is being handled by a local solid waste disposal contractor. The bone yard is located southeast of the Salt and Potash Recycle Storage Pad (Appendix A, Figure 2). In the event that

IPM will need to suspend landfill operations; portable bins will be placed on site and managed by the local solid waste contractor or other authorized personnel, as applicable.

**A general training and safety plan for site operations (R315-302-2(2)(n))**

Refer to Appendix D - General Site Safety and Training Plan Landfill Addendum.

**Recordkeeping (R315-302-2(3)**

IPM will maintain and keep at the main office all monitoring inspection reports, the daily operating record that will include the amount (cubic yards) and type of solid waste received and the number of vehicles entering, and the asbestos disposal records.

**Recycling programs (R315-303-4(6))**

There are no recycling programs planned at the facility.

## MAPS

**Topographic map of landfill boundaries (R315-310-4 (2)(a)(i))**

Refer to Appendix A for this information.

**Most recent U. S. Geological Survey topographic map (R315-310-4(2)(a)(ii))**

Refer to Appendix A for the most recent U. S. Geological Survey map.

## ENGINEERING REPORT – PLANS, SPECIFICATIONS, AND CALCULATIONS

**Cell design, cover design, fill methods, elevation of final cover including plans and drawings (R315-310-3 (1)(b) and R315-310-4 (2)(c)(iii))**

The landfill has been created using the cell method of filling. Waste is deposited as needed. The working face of the cell is approximately 10'x5'x5'. The manner in which IPM plans to close the landfill will meet all requirements of R315-305-5(5)(b). The waste that is contained in the landfill are covered in place and leveled on a regular basis. This practice will continue as long as the landfill is in use and at the time for closure.

The final filled area will be covered with at least the minimum required cap consisting of two feet of native soil. The final cap will be contoured such that the grade is greater than 2 percent and less than 33 percent and will be revegetated with native vegetation or a suitable alternative approved by the Executive Secretary for other similar operations. Any deviation from this plan will be submitted in advance to the Executive Secretary and the Division of Solid and Hazardous Waste for consideration and approval.

**Special Wastes**

Placement of asbestos containing materials (ACM) within the landfill will comply with the Division of Air Quality requirements, specifically the National Emission Standards for Asbestos CFR Part 61.154.

- Due to existing fencing around the mine site and restrictive public access to the site, asbestos warning signs have been placed at the landfill area around the asbestos dump area.
- Asbestos waste generated at the site is placed within the landfill in such a manner as to generate no visible emissions to the outside air.
- All asbestos waste are placed in double lined 6 mil poly bags or for larger materials, the ACM will be wrapped with 6 mil poly sheeting and duct tapped to prevent potential fiber release.
- To minimize potential to generate fugitive, wind-blown dust, IPM utilizes existing water sprinklers to mist the work area.
- All asbestos waste is loaded and unloaded from the containers by hand to prevent accidental breakage of the 6-mil poly.
- Asbestos wastes from generators other than IPM will not be accepted at this site.
- Within 24 hours of placement of the asbestos waste into the landfill cell, the ACM is covered with a minimum of 15 centimeters (6 inches) of compacted non-ACM.
- Asbestos waste received at the cell will be documented with the quantity of ACM in cubic yards and the date of receipt. A map of the landfill will be updated as asbestos waste is received with the location, depth, and general area of ACM waste within the disposal cell.

**Design and location of run-on and run-off control systems (R315-310-4(2)(c)(viii))**

A two-foot diversion berm has been placed at the up-gradient side (south side) of the landfill and extends to the east and west (Figure 2) to minimize run-off from storm events. The landfill will be part of the tailings pond system that is completely raised and enclosed, so there is no potential for run-on from a 25-year storm event. Based on calculations there is more than adequate capacity to contain any run-off from a 25-year storm event.

**CLOSURE PLAN (R315-310-3 (1)(h))**

IPM will, within 60 days after certification of closure, notify the Grand County Recorder to file proof of closure as outlined in R315-302-2(6). The Closure Plan immediately follows this checklist.

**POST-CLOSURE CARE PLAN (R315-310-3 (1)(h))**

IPM will provide post closure activities that will include, at a minimum, monitoring of land and water, for a period of 30 years, or as long as the Executive Secretary determines is necessary for the facility or unit to become stabilized and to protect human health and environment. Class IIIb Landfills are not subject to ground water monitoring. The Post Closure Plan immediately follows the Closure Plan.

## FINANCIAL ASSURANCE (R315-310-3 (1)(j))

**Identification of closure costs including cost calculations (R315-310-4 (2)(d)(iv))**

Closure costs for the landfill are located in Attachment 1 of the Closure Plan. The costs for closure of the landfill section are approximately $137,000.00.

**Identification of post-closure costs including cost calculations (R315-310-4(2)(e)(iv))**

Post closure costs for the landfill are located in Attachment 1 of the Closure Plan. The costs for post-closure of the landfill section are approximately $32,500.00. This includes 30 years of post closure monitoring and site inspections.

**Identification of the financial assurance mechanism that meets the requirement of Rule 315-309 and the date the mechanism will become effective (R315-309-1 (1))**

Financial Assurance mechanism has been submitted with the initial permit approval.

# Closure and Post Closure Plan
# For
# Intrepid Potash - Moab, LLC
# Class IIIb
# On-site Landfill

## Table of Contents


1.0 Introduction
- 1.1 Site Description and Background

2.0 Statement of Closure Plan

3.0 Closure Plan
- 3.1 Methods, Procedures, and Processes
  - 3.1.1 Maintenance and Control
    - 3.1.1.1 Escape of Air Pollutants/Gases
    - 3.1.1.2 Control of Run-off
  - 3.1.2 Final Facility Topography
  - 3.1.3 Drainage Plan
  - 3.1.4 Composition of Cover
    - 3.1.4.1 Sloping
    - 3.1.4.2 Landscaping
    - 3.1.4.3 Vegetation
  - 3.1.5 Description of Monitoring and Maintenance
  - 3.1.6 Contact Personnel
- 3.2 Maximum Portion of Operation
- 3.3 Maximum Inventory and Estimated Life
- 3.4 Schedule for Completion
- 3.5 Notification and Review
- 3.6 Closure Activity Notification

4.0 Post-Closure Plan
- 4.1 Maintenance of Final Cover
  - 4.1.1 Repairs
  - 4.1.2 Prevention of Run-On and Run-Off
  - 4.1.3 Maintenance and Operation of Leachate Collection System
  - 4.1.4 Monitoring of Surface and Groundwater
  - 4.1.5 Monitoring of Gases
- 4.2 Post-Closure Care Statement
- 4.3 Post-Closure Use Statement
- 4.4 Post-Closure Certification

5.0 Submittal Statement

List of Attachments for Closure and Post-Closure Plans

Attachment #1 Post-Closure Inspection Form
Attachment #2 Closure and Post Closure Cost Calculations
Attachment #3 Financial Assurance Mechanism
Attachment #4 Facility Final Topography

## 1.0 Introduction

IPM is submitting the enclosed Closure and Post-Closure Plan in accordance with the State of Utah, Division of Solid and Hazardous Waste's (DSHW) R315-304-5 rules with this document.

### 1.1 Site Description and Background

IPM owns and operates a salt and potash mine located approximately 15 miles south on Highway 279, Moab, Utah. The cell is located up-gradient and to the southeast of the existing tailings pond. See Appendix A for maps of each cell location.

The landfill is an industrial solid waste landfill that meets the classification of a Class IIIb Landfill. It is not be accessible to the public, and will accept only non-hazardous debris that is generated onsite. The landfill is not located on public lands or near public drinking water supplies. The landfill is not located in a subsidence area, flood zone, near designated wetlands, or above an underground mine. There are no surface bodies of water, residential dwellings, or incompatible structures within ¼ mile of the landfill. The coordinates of the landfill is as follows:

SE1/4 of NW1/4 Section 25, Range 20 East Township 26 South

## 2.0 Statement of Closure Plan

IPM is required to submit Closure and Post-Closure Plans in a way that "minimizes the need for further maintenance and minimized the post-closure formation and releases of leachate and explosive gases to the air, groundwater or surface water to the extent necessary to protect the public health and welfare and prevent any nuisance." This document represents IPM's compliance with R315-302-3 (2).

## 3.0 Closure Plan

### 3.1 Methods, Procedures, and Processes

All materials disposed of within the Class IIIb landfill will comply with acceptable waste constituents of an industrial non-hazardous landfill. The landfill will accept only non-hazardous waste that is generated at the mine site. The waste will consist of obsolete equipment, pallets and other debris generated during demolition/renovation activities, plant operations, and other industrial debris. Special wastes include Galbestos® sheeting for demolition and renovation activities and small amounts of thermal system insulation generated while conducting routine Operation and Maintenance (O&M) of the mine site's ACM. No other wastes are accepted; therefore, this landfill will not be a commercial landfill and no other areas will be served. On average, approximately 10 cubic yards per day of this waste is disposed at the landfill.

### 3.1.1 Maintenance and Control (R315-310-4 (2)(e)(iii))

Access to the facility is restricted through plant security and property fencing. Signs are posted indicating authorized personnel only are allowed on the access roads leading into the plant. Wind dispersal of landfill litter will be minimized by the application of cover.

After cessation of operations at the mine, the landfill will be closed with an application of the intermediate cover and a complete inspection of the surface will be performed. Cleanup of the site will be performed concurrently. All remaining visible litter and debris in the immediate vicinity will be placed in the final lift of the landfill unit. At that time, the final cover will be applied. A thorough closure inspection shall consist of observations for erosion, sloping, drainage, surface leachate, and run-on. Areas requiring repairs/modifications will be documented on the Landfill Inspection Form (see Appendix C). Necessary modifications will be made using appropriate materials and compacted, as required.

#### 3.1.1.1 Escape of Air Pollutants/Gases

The contents of this industrial waste landfill have little or no amounts of putrescible materials and the decomposition of the organic wastes are minimal. The U.S. EPA reports that methane is generated from "municipal" solid waste only when the moisture content exceeds 40% (U.S. EPA, 1994). Due to the limited moisture at the site and the absence of putrescible wastes contained in the heap, methane gas generation is not anticipated. Vector, dust, and odors are effectively controlled so they are not a nuisance or hazard to health, safety or property. None of the waste is flammable, but combustible waste may exist; however, a fire or explosion in the landfill area is highly unlikely. The area is served by the local fire department, and equipment is located onsite to move soil for fire suppression, if necessary.

#### 3.1.1.2 Control of Run-off

Runoff from the landfill is not expected to occur due to the design of the tailings pond. After closure, the absorption and evapotranspiration by the vegetation layer and the absence of any appreciable run-on will ensure the control of runoff. Once the vegetation layer growth is established, most storm events will not result in significant direct run-off from the landfill surface area. Nonetheless, significant percolation through the cover layer is unlikely, thus leachate or seepage from the heap is minimal.

### 3.1.2 Final Facility Topography

Please refer to Attachment #4

### 3.1.3 Drainage Plan

The majority of any surface water run-off will be contained in pre-existing drainage channels and will be routed around the landfill by naturally occurring topography. IPM has constructed a small berm directly to the southeast of the landfill from native soils and rocks to divert any possible storm water run-off from the area to the southeast.

### 3.1.4 Composition of Cover (R315-310 –4(2)(c)(iii))

The final cover system will be made of the intermediate compacted cover, compacted soil layer, and vegetation layer. The material used for final cover will be placed on the graded, compacted, intermediate cover layer (12 inches of intermediate cover). The soil layer material will be compacted and will be composed of clayey silt-sand mixture with a low permeability. The soil layer will be no less than 6 inches of compacted soil and will come from onsite sources. These two layers total 18 inches of compacted soil, which will serve to minimize infiltration. A vegetation layer of no less than 6 inches will then be applied. The vegetation layer will be of an organic composition that will support native or compatible plant life. The final cover depth will be no less than 24 inches.

#### 3.1.4.1 Sloping

The final cap will be contoured such that the grade is greater than 2 percent and less than 33 percent and will be revegetated with native vegetation or a suitable alternative approved by the Executive Secretary for other similar operations. Any deviation from this plan will be submitted in advance to the Executive Secretary and the Division of Solid and Hazardous Waste for consideration and approval.

#### 3.1.4.2 Landscaping

The waste will be leveled to the extent practicable, covered with a minimum of two feet of soil and the cover contoured as described above. No vegetation, other than local introduced and native grasses and woody species identified in this plan will be placed on the landfill.

### 3.1.4.3 Vegetation

The vegetation layer provides the base for native plants to grow. The layer will be of sufficient organic content and volume such that the landfill's approved seed mixes will have the ability to prosper. Approved seed mixes for the area include:

| Common Name | Scientific Name | Per Acre |
|---|---|---|
| Galleta | *Hilaria jamesii* | 3.0 lbs |
| Alkali Sacaton | *Sporobolus airoidies* | 3.0 lbs |
| Three-awn | *Aristida purpurea* | 2.0 lbs |
| Inland Saltgrass | *Distichlis stricta* | 2.0 lb |
| Indian Ricegrass | *Oryzopsis hymenoides* | 2.0 lbs |
| Sand Dropseed | *Sporobolus cryptandrus* | 2.0 lbs |
| Scarlet Mallow | *Sphaeralcea coccinea* | 2.0 lbs |
| Gooseberry-leaf Mallow | *Sphaeralcea grossulariaefolia* | 2.0 lbs |

The final seed mixes will be a combination of the above-mentioned seeds, and planted by the drilling method. Approximately 4 acres will be seeded during closure at a density of approximately 18 pounds per acre.

### 3.1.5 Description of Monitoring and Maintenance

Qualified personnel will be located near or around the landfill to supervise continued activities during closure. The closure of the landfill will be concurrent with the landfill's final development. Landfill operations will proceed in a manner that will minimize the working area of the landfill. Once the final intermediate cover is placed and graded, landfill inspections will commence. The Post-Closure Landfill Inspection Form (see Attachment # 1) will be used for the final closure inspection.

### 3.1.6 Contact Personnel (R315-310-4 (2)(e)(vi))

The following positions and personnel represent IPM's contact list of responsible officials as they pertain to the landfill.

**Landfill Owner:** Intrepid Mining LLC
**Operator:** Rick York
**Address:** P.O. Box 1208
Moab, Utah 84532

**Contact Person:** Rick York
**Phone:** 435-259-1201

### 3.2 Maximum Portion of Operation

The cell method of land filling will be used at the landfill, within the tailings pond system. Thus, the working face will be limited to the smallest area practical in order to confine the amount of exposed waste without interfering with effective operation. The maximum working face (surface area) open at any one time will be approximately 150 square feet, a total maximum height of 5 feet and horizontal spatial distance of approximately 10 feet.

### 3.3 Maximum Inventory and Estimated Life (R315-310-4 (2)(d)(ii))

Based on the final closure design, original topography, and volume of the final cover, the maximum inventory for the landfill will be approximately 50,000 cubic yards. The total volume (including final cover) is estimated to be 63,000 cubic yards. The average volume loading of waste to the landfill is estimated to be approximately 96.30 cubic yards (~27 tons) per year. The estimated life of the landfill, based on the above volumes and an existing waste volume of 50,000 cubic yards, is approximately 19.2 years from the time of this submittal.

### 3.4 Schedule for Completion (R315-310-4 (2)(d)(i) and R315-310-4 (2)(d)(iii))

The cell has been completed and has been inspected by the DSHW. The initial permit was issued on November 15, 2004 and was given permit number 0401. Closure activities will commence within 30 days after receipt of the final volume of waste, and will be completed within 180 days of the start time. IPM will notify the DSHW upon completion of closure to schedule the final inspection by regulatory agencies.

### 3.5 Notification and Review (R315-310-4 (2)(e)(ii))

Within 60 days of certification of closure of the landfill, IPM will make the proper notification and submittals to the Grand County recorder and, upon doing so, file proof of title filing with the Executive Secretary. With respect to the requirement at R315-302-2(6)(b) for public access to records containing information about solid waste amounts, location, and periods of operation, IPM will file annual reports to the Division of Solid and Hazardous Waste, as required. These documents are public records and may be obtained by local zoning authorities from either the Division or IPM, upon request.

### 3.6 Closure Activity Notification

IPM will begin closure activities of the landfill in accordance with the approved Closure Plan no later than 30 days following the final receipt of waste at the landfill.

Closure activities shall be completed within 180 days from their starting time, however, IPM reserves the right for extensions of the deadline for beginning and concluding closure activity. The Executive Secretary will be given written justification for any extension requests. If necessary, fences will be erected to limit service and signs will be posted at conspicuous locations indicating closure activities have begun. Alternative disposal site locations will be indicated on the closure notice signs.

## 4.0 Post-Closure Plan (R315-310-3(1)(h))

After the Closure Plan has been executed, completed, and certified, the following post-closure and end use plan will be implemented. Following closure of the landfill, IPM will conduct the appropriate industrial landfill post-closure care.

### 4.1 Maintenance of Final Cover

Facility maintenance and monitoring of applicable gases, land, and water constituents will be conducted for a period of 30 years after closure. The landfill cover and surrounding areas will be inspected and repaired by IPM or IPM contractor on a quarterly basis for the first year, then semi-annually for 29 years thereafter. The Post-Closure Inspection Form is shown in Attachment #1.

#### 4.1.1 Repairs

During landfill inspections, if any settlements, subsidence or erosion areas are found on the cover, they will be promptly backfilled with onsite compatible (similar permeability) soil. After final grading, the area will be re-vegetated with the prescribed native seed mix. If there are areas of inherent erosion it will be documented on the Landfill Inspection Form and addressed by re-grading and placement of appropriate cover material. To prevent integrity breaks in the cover due to mechanical agitation, notices will be posted and access will be limited to inspection, maintenance, and monitoring personnel. Repairs will be made promptly with the appropriate soil, rip rap, or other necessary materials that will be compatible to the immediate environmental factors that cause breeches in the cover integrity.

### 4.1.2 Prevention of Run-On and Run-Off

Because the landfill is part of the tailings pond system that is completely raised and enclosed, there is no potential for run-on from a 25-year storm event and there is more than adequate capacity to contain any run-off from a 25-year storm event.

### 4.1.3 Maintenance and Operation of Leachate Collection System

Given the topographical area and expected rainfall, no leachate collection system is recommended for this site.

### 4.1.4 Monitoring of Surface and Groundwater

Groundwater monitoring for Class III(b) landfills is exempt by R315-304-5(4)(c). Surface water monitoring is not required.

### 4.1.5 Monitoring of Gases

Due to low moisture content and minimal putrescible waste, generation of gases is not expected, and thus monitoring of gases is not applicable.

## 4.2 Post-Closure Care Statement

IPM will conduct post-closure monitoring and maintenance care as necessary or as directed by the Executive Secretary for a period of 30 years from date of closure. Reduction or extension of the 30 year monitoring and maintenance care period may be negotiated between the Executive Secretary and IPM management.

## 4.3 Post-Closure Use Statement

Post-Closure use is anticipated to be very minimal. Post-Closure use will not increase the foreseeable threat to public health.

## 4.4 Post-Closure Certification

IPM will submit written verification following the closure of a landfill unit and following the completion of post-closure care of a landfill unit. This verification will state the completed activities are in accordance with the requirements of R315-302-3(7)(b).

## 5.0 Submittal Statement

The Closure Plan, Post-Closure Plan, and other necessary documents were prepared and submitted to the Division of Solid and Hazardous Waste.

No subsequent modification to the Closure and Post-Closure Plan will be made without the approval of Executive Secretary. IPM reserves the right to petition to amend the Post-Closure Plan.

IPM will keep a copy of the most recent approved Closure Plan and Post-Closure Plan at the Mine Offices.

**Attachment #1**

**Post – Closure Inspection Form**

**Intrepid Potash - Moab, LLC**

**Post Closure Inspection Form**

| Date | Time | Landfill Cell | Name | Signature | Inspect for: malfunctions, deterioration, operator errors, discharges that cause or may cause a threat to human heatlh or the environment, any other abnormal conditions. |
|---|---|---|---|---|---|
| | | | | | |
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**Attachment #2**

**Closure and Post Closure Cost Calculations**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **INTREPID POTASH - MOAB, LLC** | | | | | | | |
| | | | | | | | |
| MOAB SALT DEBRIS DUMP RECLAMATION COST ESTIMATE (5/14/09) | | | | | | | |
| (Updated from 2004) | | | | | | | |
| 1.0 | Topsoil Removal and Replacement | | | | | | |
| | area (ac) | cu yd matl | $/cu yd | | | | |
| | 4.0 | 12907 | 5.62 | | | | 72535 |
| | Means (2009) 31 23 16.50-2000 | | | | | | |
| | | | | | | | |
| 2.0 | Revegetation | | | | | | |
| | | | | | | | |
| | 2.1 | Compost/Manure | | | | | |
| | | $/acre | | # acres | | | |
| | | 388 | | 4.0 | | | 1552 |
| | | see note (a) | | | | | |
| | 2.2 | Seed Mix | | | | | |
| | | $/acre | appl $/ac | # acres | | | |
| | | 920.00 | 39 | 4.0 | | | 3836 |
| | | see note (b) | | | | | |
| 3.0 | Post Reclamation Supervision | | | | | | |
| | # hours | $/hour | | | | | |
| | 500 | 65 | | | | | 32500 |
| | | see note (c) | | | | | |
| | | | | | | | |
| 4.0 | Subtotal | | | | | | 110423 |
| | | | | | | | |
| 5.0 | Contingency (10% of Subtotal) | | | | | | 11042 |
| | | | | | | | |
| 6.0 | Escalation - for 10 years at a rate of 1.30% per year | | | | | | 15227 |
| | | | | | | | |
| 7.0 | GRAND TOTAL | | | | | | 136693 |
| | | | | | | | |
| **7.1** | **GRAND TOTAL (ROUNDED)** | | | | | | **$ 137,000** |
| | | | | | | | |
| | Note (a) Means 2009 lists the historical cost index for 2004 = 143.7 and 2009 = 185.9. | | | | | | |
| | Therefore, the value for compost in 2009 is 300 (185.9/143.7) = 388 | | | | | | |
| | | | | | | | |
| | Note (b) Seed mix is a quote from Granite Seed (5/12/09). The value for appl $/ac in | | | | | | |
| | 2009 is 30 (185.7/143.7) = 39 | | | | | | |
| | | | | | | | |
| | Note © The value for supervision $/hr is 50 (185.9/143.7) = 65 | | | | | | |

**Attachment #3**

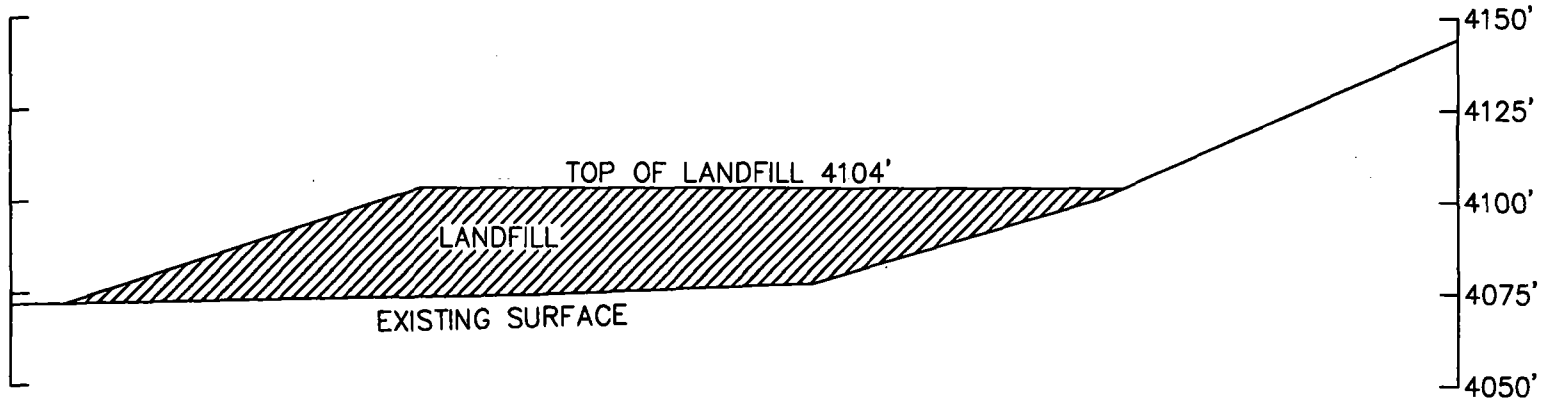
**Financial Assurance Mechanism**

**Financial assurance was provided with final approval of the Permit # 0401.**

**Attachment #4**

**Facility Final Topography**

drawings\Intrepid Potash\Moab\CrossSection.dwg




N

# INTREPID POTASH - MOAB, LLC

FIGURE 6
LANDFILL DESIGN CROSS SECTION

jbr environmental consultants, inc.

| DESIGN BY | DRAWN BY | CHK'D BY | SCALE | DATE DRAWN | REVISION |
|---|---|---|---|---|---|
| WF | CP | | -- | 6/29/04 | |

**Attachment A**

**Maps of Landfill**

Intrepid Potash – Moab, LLC
P. O. Box 1208
Moab, UT 84532
435.259.7171
435.259.7100 fax

February 28, 2005

Mr. Dennis Downs
Executive Secretary
Utah Solid & Hazardous Waste Control Board
288 North 1460 West
P.O. Box 144880
Salt Lake City, Utah 84114-4880

**RE: As-Built Construction of On-Site Landfill – Permit Number 0401**

Dear Mr. Downs:

As per your request, Intrepid Potash – Moab, LLC (IPM) is providing this letter for your review of the as-built construction of the permitted landfill (Permit Number 0401) at our facility. Enclosed is the topographic map and description of the as-built location and management areas of the landfill located at IPM mine site.

Within this cell, there are two active management areas. The north section of the cell contains scrap metal, concrete, and other non-hazardous debris from site clean-up operations. All scrap metal and non-hazardous debris have been compacted and covered with on-site fill. This area is active and materials will be placed within this section during normal non-hazardous debris clean-up operations.

The southern section of the cell has been designated for asbestos wastes only. This section is enclosed with six-foot fence and appropriate asbestos warning signs are in-place to prohibit unauthorized access to the area. All asbestos waste that has been placed within this location is covered with a minimum of six inches of native soil at the end of each shift. This area is active and asbestos wastes are placed within this section during scheduled Operation & Maintenance (O&M) activities as well as during future abatement projects.

All wastes loads have been documented as outlined in the landfill permit application and are kept on-file as required in the permit. If you have any questions or require any further information on the landfill, please contact me at (435) 259-1201.

Sincerely,

Rick York
*Plant Manager*

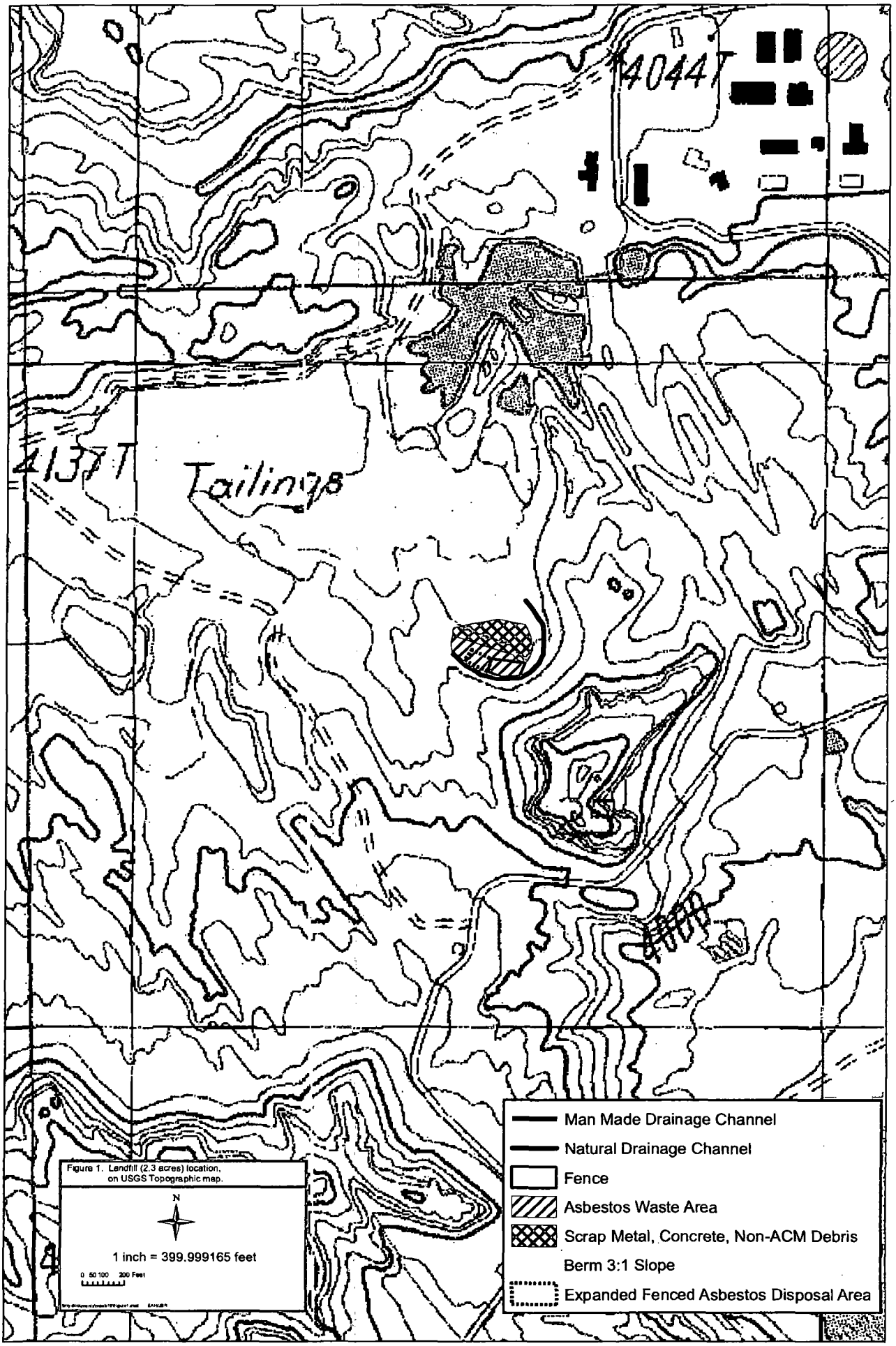
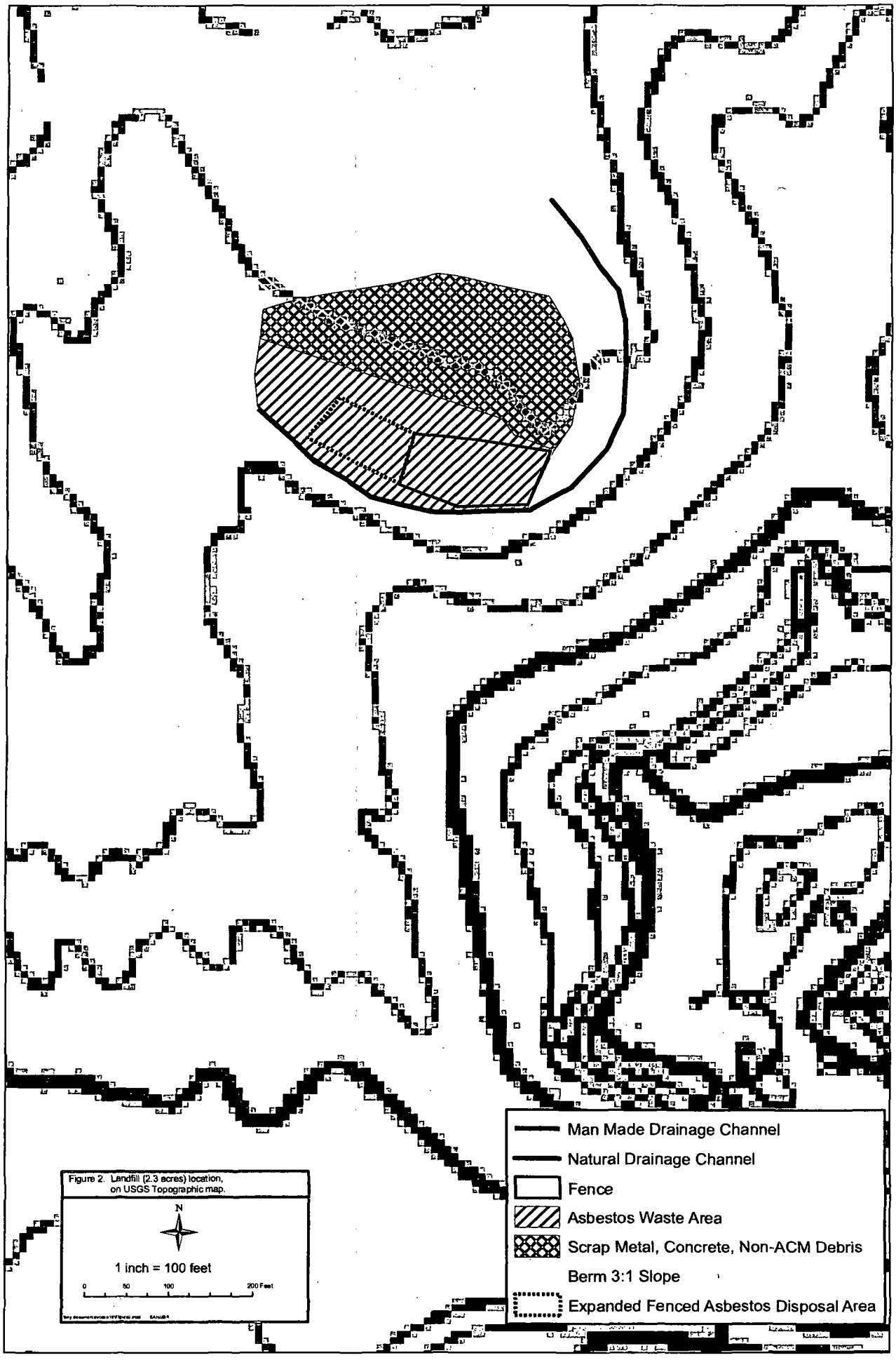



Figure 1. Landfill (2.3 acres) location, on USGS Topographic map.


Man Made Drainage Channel
Natural Drainage Channel
Fence
Asbestos Waste Area
Scrap Metal, Concrete, Non-ACM Debris
Berm 3:1 Slope
Expanded Fenced Asbestos Disposal Area
Figure 2. Landfill (2.3 acres) location, on USGS Topographic map.
N
1 inch = 100 feet
0
50
100
200 Feet

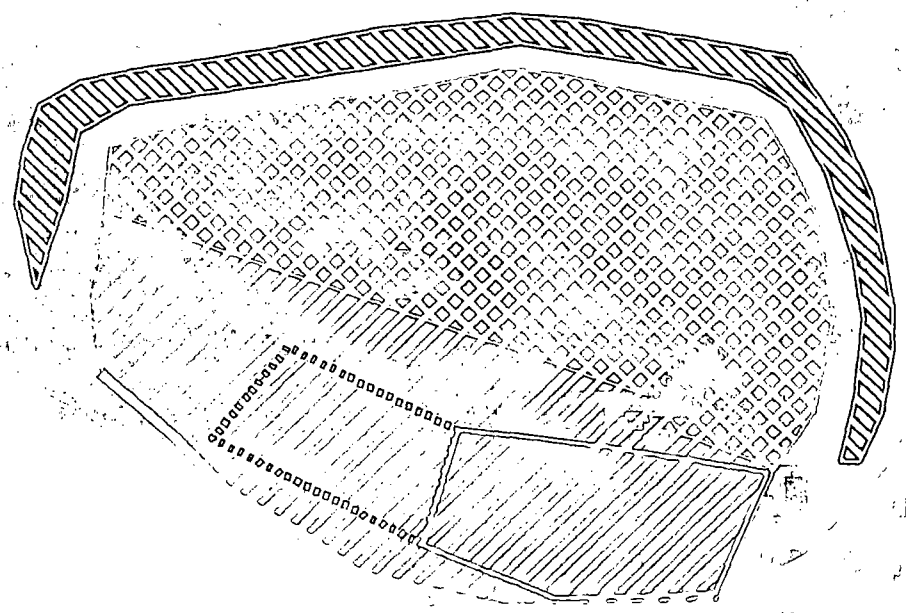


Figure 3. Landfill (2.3 acres) location, on aerial photograph.

N

1 inch = 100 feet

0 50 100 200 Feet

I:\my documents\amsb19\Figure3.mxd EAH/BR

Man Made Drainage Channel

Natural Drainage Channel

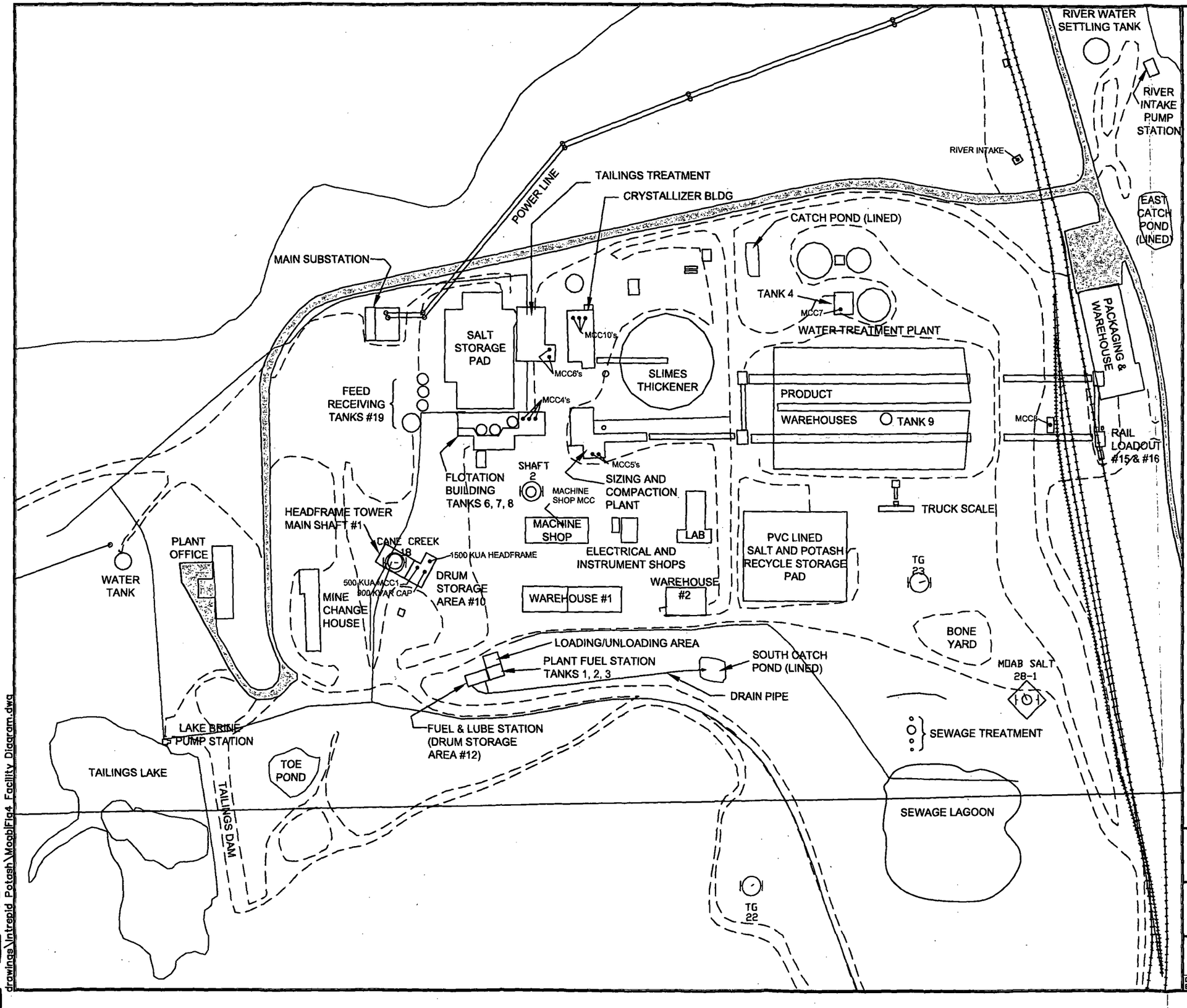
Fence

Asbestos Waste Area

Scrap Metal, Concrete, Non-ACM Debris

Berm 3:1 Slope

Expanded Fenced Asbestos Disposal Area



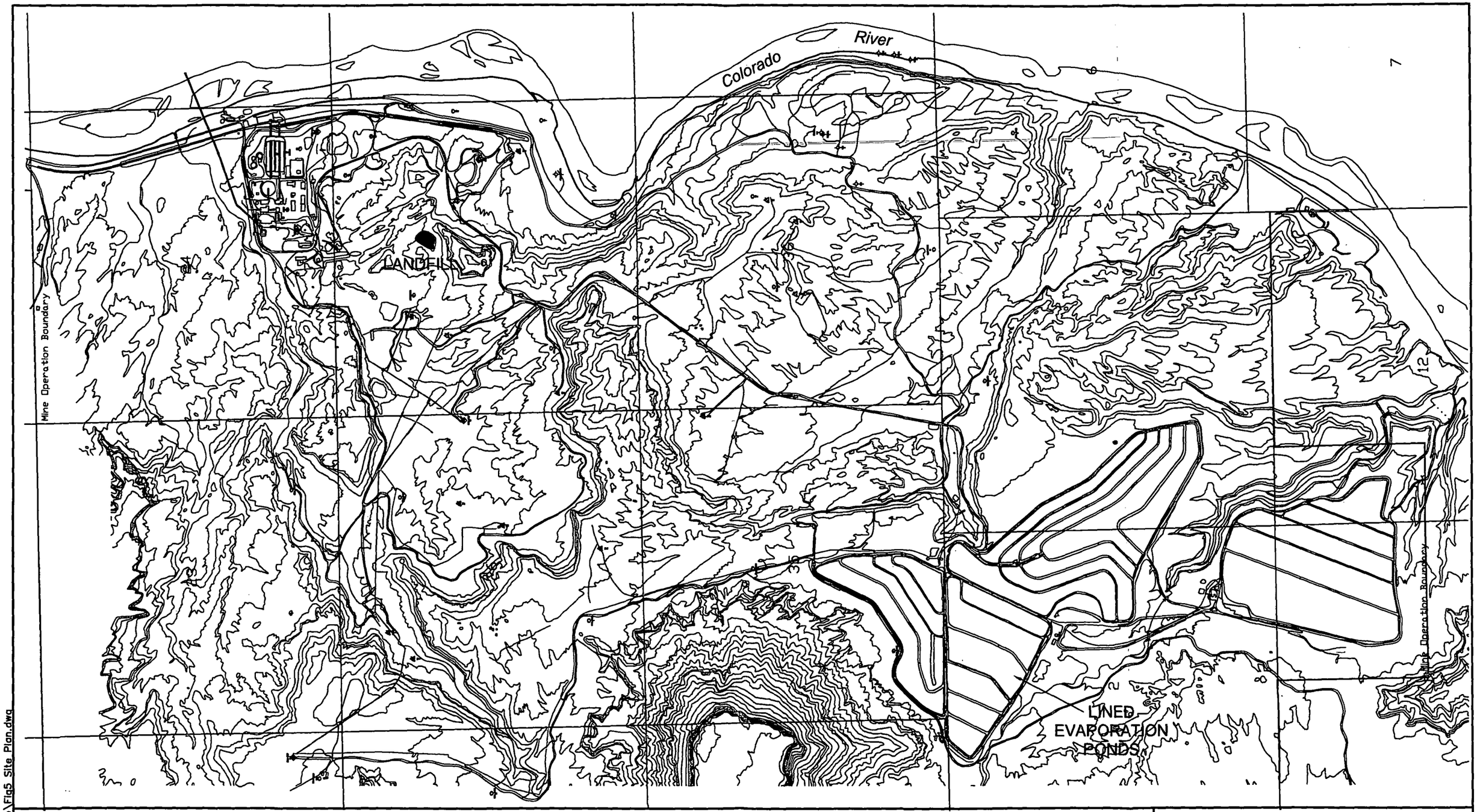

drawings \Intrepid Potash \Moab\Fig4 Facility Diagram.dwg

# INTREPID POTASH - MOAB, LLC

FIGURE 4
FACILITY DIAGRAM

jbr environmental consultants, inc.

| DESIGN BY | DRAWN BY | CH'D BY | SCALE | DATE DRAWN | REVISION |
|---|---|---|---|---|---|
| GR | CP | | 1"=250' | 4/09/04 | 5/27/04 |




EXPLANATION

ACCESS ROADS

PROPOSED LOCATION OF LANDFILL

N

1600 0 1600 FEET

# INTREPID POTASH - MOAB, LLC

FIGURE 5
SITE PLAN

jbr environmental consultants, inc.

| DESIGN BY | DRAWN BY | CH'D BY | SCALE | DATE DRAWN | REVISION |
|---|---|---|---|---|---|
| GR | CP | | 1"=1600' | 12/03/03<br>12/31/03<br>5/27/04 | |

drawings\Intrepid Potash\Moab\Fig5 Site Plan.dwg

**Attachment B**

**Statement of Ownership**

**IRREVOCABLE STOCK POWER**

FOR VALUE RECEIVED, the undersigned PCS Phosphate Company, Inc., formerly know as Texasgulf Inc., hereby sells, assigns and transfers to Intrepid Oil & Gas, L.L.C., a Colorado limited liability company, one million (1,000,000) shares of preferred stock in Moab Salt, Inc., a Delaware corporation, which represents all of the issued and outstanding preferred stock of such corporation, represented by Stock Certificate Number A-5, standing in its name on the books of said corporation, and does hereby irrevocably constitute and appoint the secretary of the corporation to transfer such shares on the books of such corporation with full power of substitution in the premises.

DATED this ____ day of February, 2000.

PCS Phosphate Company, Inc.

Signature

By: _____

Its: Senior Vice President

No. 18024

# To All to Whom These Presents Shall Come, Greeting:

WHEREAS, TEXAS GULF SULPHUR COMPANY

NEW YORK CITY,

of the County of NEW YORK State of NEW YORK heretofore purchased from the State of Utah, the lands hereinafter described, pursuant to the laws of said State in such case made and provided,

AND WHEREAS, the said TEXAS GULF SULPHUR COMPANY

has paid for said lands, pursuant to the conditions of said sale, and the laws of the State duly enacted in relation thereto, the sum of Seventy Six Hundred and no/100 ($7600.00) Dollars, and all legal interest thereon accrued, as fully appears by the certificate of the proper officer, now on file in the office of the Secretary of State of the State of Utah;

NOW THEREFORE, I GEORGE D. CLYDE, Governor, in consideration of the premises, and by virtue of the power and authority vested in me by the laws of the State of Utah, in such case made and provided, do issue this PATENT, in the name and by the authority of the State of Utah, hereby granting and confirming unto the said

TEXAS GULF SULPHUR COMPANY

and to its successors ~~heirs~~ and assigns forever, the following piece or parcel of land, situate in the County of GRAND State aforesaid, to-wit: NE¼NW¼, W½NW¼, SW¼, W½SE¼ of Section 24; W½NE¼, NW¼ of Section 25 and NE¼ of Section 26,

Township 26 South, Range 20 East, Salt Lake Meridian,

Reserving to the United States all ~~coal~~ oil, ~~petroleum~~ Potassium, gas ~~nitrate~~ and ~~Sodium~~ Sodium; and to it, or persons authorized by it, [illegible] for, mine and remove the mineral deposits [illegible] aforesaid upon compliance with the conditions [illegible] to limitations of the [illegible] approved [illegible] 1910 (36 Stat., 583) as amended by the Act of April [illegible] (36 Stat., 105) [illegible] July 17, 1914, (33 Stat., 509.) and the Act of March 4, 1915 (47 Stat. 1570).

RESERVING TO THE STATE OF UTAH ALL MINERALS [illegible] Oil-Gas Potassium & Sodium IN THE ABOVE LANDS AND IT OR PERSONS AUTHORIZED BY IT THE RIGHT TO PROSPECT FOR MINE AND REMOVE COAL AND OTHER MINERALS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS AND SUBJECT TO LIMITATIONS OF [illegible] LAWS [illegible]

and by virtue of the power and authority vested in me by the laws of the State of Utah, in such case made and provided, do issue this PATENT, in the name and by the authority of the State of Utah, hereby granting and confirming unto the said

TEXAS GULF SULPHUR COMPANY

and to its successors ~~heirs~~ and assigns forever, the following piece or parcel of land, situate in the County of GRAND State aforesaid, to-wit: NE¼NW¼, W½NW¼, SW¼, W½SE¼ of Section 24; W½NE¼, NW¼ of Section 25 and NE¼ of Section 26, Township 26 South, Range 20 East, Salt Lake Meridian,

Reserving to the United States all ~~coal~~ oil, ~~petroleum~~ Potassium, gas ~~nitrogen~~ and ~~sodium~~ Sodium; and to it, or persons authorized by it, the right to prospect for, mine and remove the mineral deposits aforesaid upon compliance with the conditions and subject to limitations of the Acts of Congress approved June [illegible] 1910 (36 Stat., 583) as amended by the Act of April 30, 1914, (36 Stat. 105) and July 17, 1914, (38 Stat., 509,) and the Act of March 4, 1933 (47 Stat. 1570).

RESERVING TO THE STATE OF UTAH ALL MINERALS OTHER THAN Oil-Gas Potassium & Sodium IN THE ABOVE LAND & AND IT OR PERSONS AUTHORIZED BY IT THE RIGHT TO PROSPECT FOR, MINE AND REMOVE COAL AND OTHER MINERALS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS AND SUBJECT TO LIMITATIONS OF [illegible] LAWS [illegible] AS AMENDED, 1961

Rights of way for canals, ditches, tunnels, telephone and transmission lines constructed by authority of the United States are hereby reserved. U. S. Act, Aug. [illegible], 1890 (26 Stat. 391); 86-2-3 Utah Code Annotated 1943.

containing 760.00 acres according to the said certificate.

**TO HAVE AND TO HOLD** the above described and granted premises unto the said TEXAS GULF SULPHUR COMPANY

and to its successors ~~heirs~~ and assigns forever, subject to any easement or right of way of the public, to use all such highways as may have been established according to law, over the same or any part thereof, and subject also to all rights of way for ditches, tunnels, and telephone and transmission lines that may have been constructed by authority of the United States.

[illegible] the great seal of the State of Utah to be hereunto affixed

Rights of way for canals, ditches, [illegible] mission lines constructed by authority of the United States are hereby reserved. U. S. Act, Aug. [illegible] (2a Stat. 391); 86-2-3 Utah Code Annotated 1943.

containing 760.00 acres according to the said certificate.

**TO HAVE AND TO HOLD** the above described and granted premises unto the said TEXAS GULF SULPHUR COMPANY

and to its successors

heirs and assigns forever, subject to any easement or right of way of the public, to use all such highways as may have been established according to law, over the same or any part thereof, and subject also to all rights of way for ditches, tunnels, and telephone and transmission lines that may have been constructed by authority of the United States.

**IN TESTIMONY WHEREOF,** I have hereunto set my hand and caused the great seal of the State of Utah to be hereunto affixed.

Done [illegible] City, this 13th day of July in the year of our Lord, one thousand nine hundred and sixty-one, and of the independence of the United States of America the one hundred and 85th, and in the 65th year of the State of Utah.

By the Governor:

Lamont F Toronto
Secretary of State.

Lee E. [illegible]
~~Executive Secretary~~, State Land Board.
DIRECTOR

Recor[illegible] Book 35 Page 530

Certificate of Sale No. 23937

PAID IN FULL 7/10/61

CASHIER

**Attachment C**

**Log sheets**

**Section #1 - Landfill Waste Log**

**Section #2 - Inspections**

**Intrepid Potash - Moab, LLC** **Landfill Log**

| Date | Name | Cover Applied? Y | N | Size of Load cubic yards | Contents of Load |
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PLEASE PRINT ALL INFORMATION

**Intrepid Potash - Moab, LLC** **Landfill Inspection Form**

| Date | Time | Landfill Cell | Name | Signature | Inspect for: malfunctions, deterioration, operator errors, discharges that cause or may cause a threat to human heatlh or the environment, any other abnormal conditions. |
|---|---|---|---|---|---|
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PLEASE PRINT ALL INFORMATION

**Attachment D**

**General Site Safety**
**Training Plan Addendum**

# Intrepid Potash-Moab, LLC Landfill Operations

## General Training and Site Safety Plan
## Addendum for Landfill Operations

This plan was developed for the safety of landfill operators and operations at the Intrepid Potash-Moab, LLC Landfill Site, in accordance with Utah Department of Environmental Quality Administrative Code R315-302-2(2)(n).

Training will include the following topics:

1.0 Applicability
2.0 Frequency
3.0 Information and Awareness
4.0 Equipment Operation
5.0 Emergency Procedures and Notification

### 1.0 Applicability

A. All landfill operators must have received the general site safety training prior to receiving this training. (Note: During monthly safety meetings, waste identification and disposal methods are discussed).
B. All landfill operators will receive this training in addition to the general site safety training.
C. New or transferred employees who have landfill responsibilities will receive this training prior to working at the landfill.
D. A new or transferred employee who has not received this training may work at the landfill under the direct supervision of a trained landfill operator under: a) temporary or emergency condition, or b) up to a period of 90 days, starting with the day the new or transferred employee began working at the landfill.

### 2.0 Frequency

A. All applicable employees will receive this training on an annual basis or when significant changes occur at the landfill.

## 3.0 Information and Awareness

Training will include:

A. A review of the landfill permit conditions.
B. A list of acceptable and unacceptable waste for the landfill.
C. Guidelines for maintaining the landfill, (fill, cover, inspections, etc.)
D. Proper record keeping of wastes received.
E. Unacceptable waste procedures (discussed in the monthly safety meetings).
F. Alternative waste disposal in the event that the landfill is unavailable.

## 4.0 Equipment Operation

The Safety Officer or their designee will determine that all landfill operators are trained in the proper operation of all landfill equipment.

## 5.0 Emergency Procedures and Notification

All landfill operators will be trained on proper landfill emergency notification procedures. Emergency procedures and/or contact numbers will be made available to all landfill operators.