Norman H. Bangerter
Governor
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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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Salt Lake City, Utah 84180-1203
801-538-5340

February 21, 1992

Mr. Roger Smith
Energy Fuels Nuclear
P. O. Box 36
Fredonia, Arizona 86022

Dear Mr. Smith:

Re: MiVida Reclamation Plan, Energy Fuels and Minerals West, M/037/028, San Juan County, Utah

Please find enclosed a copy of our draft reclamation plan for the MiVida and Expectation sites. As we agreed, the Division was to establish the draft plan and forward it to Energy Fuels. The plan is a draft and will not be finalized until Energy Fuels has had an opportunity to meet and discuss the specific details of the plan with the Division.

Our next step is to establish a meeting date to discuss the plan and time frames for implementation. I would like to suggest that we meet sometime during March; either the week of March 4-13th or March 23-27th.

Please contact me if you have questions.

Sincerely,

Holland Shepherd
Senior Reclamation Specialist

jb
Enclosure
cc: Lowell Braxton, DOGM
Wayne Hedberg, DOGM
M037028.1

an equal opportunity employer

DRAFT

MiVida Reclamation Plan

M/037/028

Division of Oil, Gas and Mining
(February 14, 1992)

Introduction

The MiVida site is an old mining disturbance dating back to October of 1952. Uranium mining was initiated at the site by Charlie Steen's Utex Exploration Company and continued by Atlas Minerals, Bob Shumway, and more recently, Minerals West and Energy Fuels.

The MiVida mine permit consists of three main areas: 1) the Upper MiVida; 2) the McCormick Tunnel; and 3) the Expectation Tunnel. The Upper MiVida and McCormick Tunnel are located together in the same unnamed canyon above the Unocal gas facilities. The Expectation Tunnel is located in the next, parallel canyon to the north and is connected to the McCormick Tunnel underground. Fig. 1 displays the major features of the Upper MiVida and the McCormick tunnel, which together comprise the MiVida portion of the permit. Fig. 2 displays the major features found at the Expectation tunnel. The maps are not drawn to scale.

The Division of Oil, Gas and Mining together with Energy Fuels Nuclear, Inc., will be jointly implementing the reclamation of the MiVida site. Areas which the Division (DOGM) will be reclaiming are indicated on Figure 1 by italicized text. Areas which will be reclaimed by Energy Fuels are indicated by regular, shaded text.

Upper MiVida

The Upper MiVida includes that portion of the MiVida site located to the extreme east and up the canyon from the McCormick Tunnel. The site includes all of the old, original MiVida workings and facilities as well as those added later by Atlas Minerals Corp. and Minerals West, Inc. On site are found the: office/washroom buildings; MiVida shaft; MiVida portal; Atlas ventilation shaft and hoist house; Minerals West decline; Minerals West waste dump; and a number of ruins left over from the original MiVida mine operation.

The portions of the site which require reclamation under the UMLRA of 1975 include: 1) the MiVida office building; 2) Atlas ventilation shaft and hoist house; 3) Minerals West waste dump; 4) Minerals West decline and 5) the access roads and pads. The county road running through the site will not require reclamation. Areas which are to be reclaimed are indicated on Fig. 1.

McCormick Tunnel

The McCormick tunnel portion of the MiVida plan consists of: 1) McCormick portal; 2) large 500 cubic yard ore bin; 3) McCormick waste dump; 4) ore cars, track and tressel; 5) two staging pads; 6) two access roads; 7) compressor shack; 8) extraneous debris; and 9) power lines, poles and transformers.

All portions of this site will require reclamation. The reclamation is to be shared between Energy Fuels and the Division. The Division will be responsible for the portions the site where historical values are to be preserved: 1) the McCormick tunnel; 2) the ore cars and portions of the track; and 3) the ore bin.

Expectation Tunnel

The Expectation tunnel site consists of: 1) two large waste dumps; 2) Expectation portal; 3) three shacks/ruins; 4) substation, power line and poles; 5) bone yard; 6) areas of extraneous debris; 7) staging pad and 8) access roads.

All portions of this site will require reclamation. Reclamation is to be performed by Energy Fuels.

Post-Mining Landuse

The area will be reclaimed for a dual post-mining landuse: 1. wildlife habitat and 2. maintenance of historical values. Portions of the Upper MiVida and McCormick will be preserved for they're historical significance, related to the Uranium Boom of the 50's and 60's.

Building Removal

All buildings or structures, on the three sites, will be demolished and buried onsite. These structures include: 1. the office building at the Upper MiVida; 2. the hoist house and head frame at the Upper MiVida; 3. the compressor shack at the McCormick; and 4. the three shacks at the Expectation tunnel site. Debris produced by the demolition of these structures can be place in the portals or buried onsite with at least 4 feet of topsoil (earthen) material.

Regrading and Backfilling

All waste dumps are presently at the angle of repose and will be regraded to slopes no greater than 2:1. The preferred angle will be 3:1. However, where it becomes necessary to blend into the surrounding topography the slope angle can be greater. The Upper MiVida waste dump, McCormick dump and Expectation dump will be included in the reclamation. The Division will not require regrading of the east side of the McCormick dump. Energy Fuels will be responsible for all waste dump reclamation.

Where slopes are greater than 3:1, dozer dimpling or dozer basins will be applied to prevent excessive sheet erosion and erosion gulling.

Portal and Shaft Reclamation

All portals and shafts within the mine permit area will be sealed. At the Upper MiVida, the Atlas ventilation shaft, Minerals West decline and MiVida decline will be backfilled with earthen material and graded to contour. The Atlas ventilation shaft should be capped with a steel plate (welded cast iron or steel plated), then covered with 3-4 feet of soil material.

The original MiVida shaft has been buried by the Minerals West waste dump. The site should be identified, cleared off, if possible, capped with a steel plate, then monumented. The original wooden ore bin and shaft head frame should be preserved.

The McCormick tunnel will be sealed with a double thick cinder block and concrete wall, 4 feet from the entry way. The entry way will be reinforced/rebuilt and left as a historical marker.

The Expectation tunnel and MiVida portal will be permanently sealed by backfilling or blasting.

Soil Material

Because the site was disturbed pre-law, no topsoil material was stockpiled. Existing, onsite earthen material will be used for backfilling, regrading and topsoiling. The dumps will be regraded, then fines from the surrounding pads or road grade will be used for distributing a 6 to 8 inch layer over the top of the waste material. Where no fines are available the dumps will be left exposed.

Revegetation

All reclaimed areas will be mulched, crimped or disced, fertilized, then seeded with following seed mixture:

	Species	lbs/acre
1.	Bluebunch Wheatgrass (Agropyron spicatum)	2
2.	Thickspike Wheatgrass (Agropyron dasystachyum)	2
3.	Indian Ricegrass (Oryzopsis hymenoides)	3
4.	Alkali Sacaton (Sporobolus airoides)	1
5.	Soft Chess (Bromus mollis)	2
6.	Yellow Sweetclover (Melilotus officinalis)	3
7.	Alfileria (Erodium cicutarium)	2
8.	Globemallow (Spharalcea coccinea)	2
9.	Rabbitbrush (Chrysothamus nauseosus)	2
10.	Fourwing Saltbush (Atriplex canescens)	2
	Total =	21 lbs/acre (broadcast rate)

Because of the lack of topsoil material a hay mulch should be applied to the planting surface and disced or crimped in. The application rate should be 2,000 lb/ac. Fertilizer will be applied at the rate of 200 lbs/ac of 18-46-10 (diammonium phosphate type fertilizer with additional potassium).

Surface Water hydrology and Sediment Control

The areas to be reclaimed should be contoured and graded in a manner which prevents sheet erosion and gulling. Existing erosion gullies will be eliminated and water diversions (berms, waterbars) will be constructed to prevent water from concentrating along slopes or runs.

The drainage pattern in the Upper Mivida and McCormick has developed into a system whereby large events will force water into a channel which flows into the Upper MiVida portal, through the mine workings, then out the McCormick tunnel portal. This must be eliminated by backfilling the Upper MiVida portal and grading the area such that the water flows back into the original channel.

The dike formed by the McCormick waste dump will be left in place. A spillway should be constructed along the south edge of the dump.

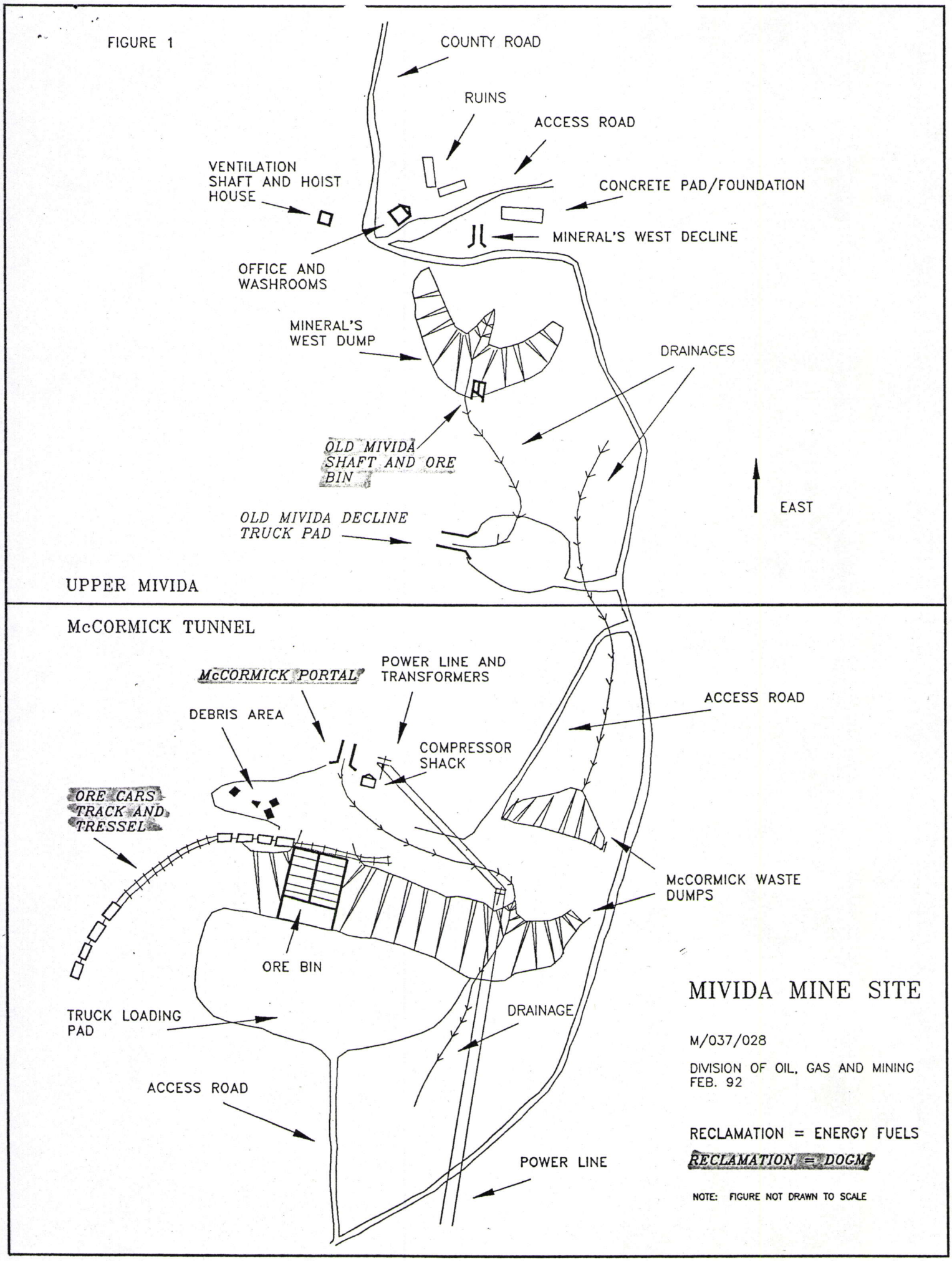
Waste material dumped into the drainage, associated with the Expectation tunnel, will be pulled back out of the drainage and blended into the hillside to the north. Debris will be removed from the drainage placed in the portal or removed offsite to a landfill.

Hazardous Materials

Any hazardous material found in drums (oil or gas) on the site will be taken to a licensed landfill. Transformers remaining on the site will be evaluated for PCBs and deposed of accordingly if found to be PCB containing. Old batteries found within the permit area will be deposed of by removal to a licensed landfill.

jb
M037028

FIGURE 1


COUNTY ROAD
RUINS
ACCESS ROAD
VENTILATION SHAFT AND HOIST HOUSE
CONCRETE PAD/FOUNDATION
MINERAL'S WEST DECLINE
OFFICE AND WASHROOMS
MINERAL'S WEST DUMP
DRAINAGES
OLD MIVIDA SHAFT AND ORE BIN
EAST
OLD MIVIDA DECLINE TRUCK PAD
UPPER MIVIDA
McCORMICK TUNNEL
McCORMICK PORTAL
POWER LINE AND TRANSFORMERS
ACCESS ROAD
DEBRIS AREA
COMPRESSOR SHACK
ORE CARS TRACK AND TRESSEL
McCORMICK WASTE DUMPS
ORE BIN
TRUCK LOADING PAD
DRAINAGE
ACCESS ROAD
POWER LINE
MIVIDA MINE SITE
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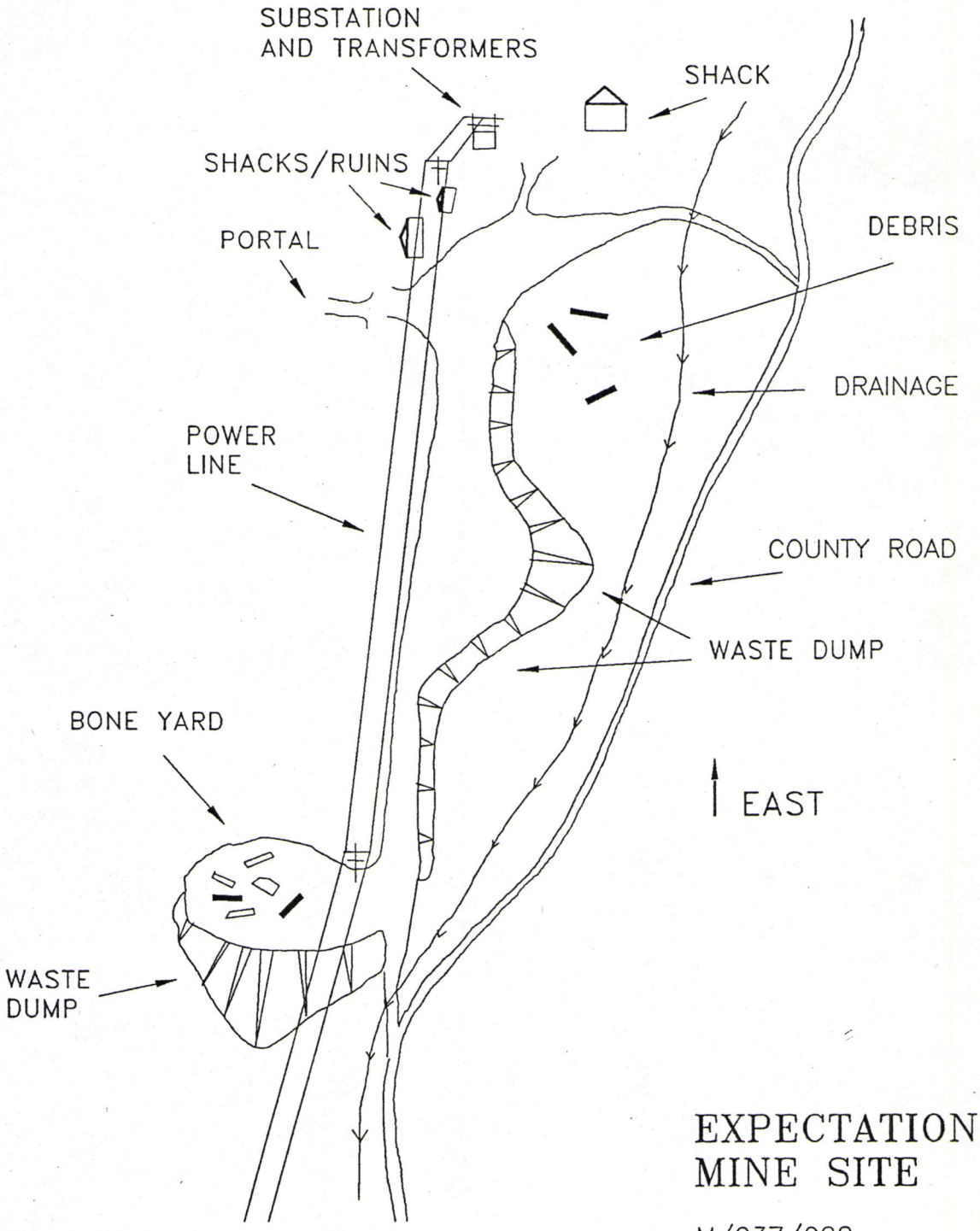
RECLAMATION = ENERGY FUELS
RECLAMATION = DOGM
NOTE: FIGURE NOT DRAWN TO SCALE

FIGURE 2



EXPECTATION TUNNEL MINE SITE

M/037/028

DIVISION OF OIL, GAS AND MINING
FEB. 92

NOTE: FIGURE NOT DRAWN TO SCALE