



COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Well Field Pit	MINE/PROSPECTING ID#: M-1984-154	MINERAL: Sand and gravel	COUNTY: Prowers
INSPECTION TYPE: Monitoring	INSPECTOR(S): Amy Eschberger	INSP. DATE: August 14, 2014	INSP. TIME: 09:30
OPERATOR: City of Lamar	OPERATOR REPRESENTATIVE: John Sutherland and Patrick Mason	TYPE OF OPERATION: 110c - Construction Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: NA	BOND AMOUNT: \$0.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: <i>Amy Eschberger</i>	SIGNATURE DATE: October 21, 2014

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>NA</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>N</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>NA</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(SB) COMPLETE INSP---- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>Y</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</u>	(OD) OFF-SITE DAMAGE----- <u>Y</u>	(ST) STIPULATIONS----- <u>NA</u>

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

OBSERVATIONS

This was a normal monitoring inspection of the Well Field Pit (Permit No. M-1984-154) conducted by Amy Eschberger of the Division of Reclamation, Mining, and Safety (Division). Mr. John Sutherland and Mr. Patrick Mason represented the Operator, City of Lamar for the inspection. This site is located approximately 3.0 miles southeast of Lamar, Colorado in Prowers County, on municipally-owned land. Access to the site is off of Co Rd 9 5/10, which is located west of the site. This operation is situated along the west bank of Clay Creek on sand and sage rangeland. The main haul road that runs down the western edge of the site will not be reclaimed. The post-mining land use is a recharge pond for the City of Lamar's water well system (mainly on the eastern half of the permit area), and rangeland (on the western half of the permit area, including mined slopes down to waterline).

This is a 110c operation that was permitted for 9.9 acres to mine sand and gravel to approximately 20 feet deep in an area that was previously mined by the city (pre-law). The operation was conducted to expand an existing recharge pond used by the City of Lamar. The eastern half of the permit area connects to the recharge pond. During the late summer months, the City of Lamar recharges part of their water well field system by flooding an area located northeast of the site, which fills the recharge pond. According to the Operator, almost all of this water infiltrates the ground when the water impoundment process is finished in late summer.

At the time of the inspection, the weather was warm and breezy, and the ground was dry. A permit sign was posted at the entrance to the site (Photo 1). The permit boundary corners were marked by large white posts (Photo 2). The mined pit was holding water during the inspection (Photos 3 and 4). According to documents provided by the Operator during the 10/25/2007 inspection, the City of Lamar operates its wells pursuant to a "Post 85 Rule 14 Plan" annually approved by the State Engineer. This plan envelops the plan for augmentation decreed in Case No. W-4015 and other augmentation sources. Therefore, it appears that this site is in compliance with regard to the retained water.

Mining activities were completed at this site as of the Annual Report submitted in November 2010. The Division denied a Full Release request (SL-01) submitted for this site on 11/30/2010. The associated inspection report (from 01/24/2011) stated the Operator would need to remove or grade out the several material stockpiles located throughout the site, grade all mined slopes to 3H:1V or flatter, spread topsoil over disturbed areas that require revegetation, and seed these areas with the approved seed mixture.

During the recent inspection, no material stockpiles were present in the permit area. All mined slopes have been graded to 3H:1V or flatter (Photos 5 and 6), except for one knob that protrudes into the recharge pond from the northern (south-facing) bank (see Photo 3). The Operator will need to level off this portion of the pond bank and seed it with the approved seed mixture. The topsoil stockpile that was present in the northwest corner of the permit area in previous inspections has been used up in reclamation of the site.

Vegetation has volunteered throughout the permit area, and consists of native grasses and forbs, annual weeds (mainly Russian thistle), sand sagebrush, wild sunflowers, a cottonwood tree (located near the center of the permit area), and a small population of Diffuse knapweed (see Photo 4). Diffuse knapweed is a state-listed noxious weed species and should be closely monitored and controlled in disturbed areas. The pond banks are vegetated primarily with Russian thistle (see Photos 5 and 6). The Division recommends the Operator implement the approved weed management plan for this site, and reseed the mined slopes with the approved seed mixture. These slopes will need to be reclaimed in accordance with the approved post-mining land use of rangeland before the site is releasable. No problems with erosion were observed during the inspection.

Rule 3.1.3 requires that all reclamation be carried to completion by the Operator with all reasonable diligence, and that each phase of reclamation be completed within five (5) years from the date the Operator informs the Division that such phase has commenced. Because the Operator informed the Division in November 2010 that mining was complete at this site, final reclamation shall be completed by **November 2015**. If reclamation has not been completed by that time, the Operator will need to apply to the Board for an extension to the 5-year period pursuant to Rule 34-32.5-112(4)(6). The approved Reclamation Plan and Reclamation Plan Map are enclosed with this report.

As the Operator is a unit of government, no Financial Warranty is required for this site.

PHOTOGRAPHS



Photo 1. View of permit sign posted at site entrance.



Photo 2. View of white post marking northwestern corner of permit boundary.



Photo 3. View looking southeast from northwestern portion of permit area, showing water present in recharge pond. Note knob (indicated) that will need to be graded to 3H:1V.



Photo 4. View looking northeast from southwestern portion of permit area, showing water present in recharge pond. Note small population of Diffuse knapweed (indicated).



Photo 5. View looking south from northwestern portion of permit area, showing mined slope gradients of 3H:1V or flatter.



Photo 6. View looking north from southwestern portion of permit area, showing mined slope gradients of 3H:1V or flatter.

Inspection Contact Address

Patrick Mason
City of Lamar
102 E Parmenter St
Lamar, CO 81052

Enclosure(s): Approved Reclamation Plan and Reclamation Plan Map

CC: Tom Kaldenbach, DRMS

City of Lamar Gravel Pit Narrative

The proposed gravel pit is located on the West side of Clay Creek approximately 2 miles southeast of Lamar. There are several pits that have been excavated for the City's water supply recharge field on the eastern edge of the proposed 9.8 acre pit. The existing recharge pits have been filled by water carried by the Fort Bent irrigation canal, therefore the existing vegetation on the site is somewhat atypical of the normal riparian plant community found along the Clay Creek flood plain.

Soils found on this site are extremely variable, ranging from Tivoli (Valent) sand, to Vona sandy loam on the West side of the proposed pit. The soils on the East side of the pit and ranging to the Southern end are basically a mixture of water-deposited gravel and wind-deposited sand, interspersed with a small inclusion of gravel breaks in the southern portion of the pit area. Topography on the West side is flat and breaks off to steeper slopes of 10%+ on the east side.

The vegetative cover presently on this site is approximately 60% annual weeds (see attached plant composition list). Because of the wide spectrum of soil conditions that exist on this site and the fact that the Eastern portion is currently flooded, the plant community is not to be considered normal for the typical range sites associated with these soil series found in this area. Plant cover on this site is approximately 15%, with wide areas of bare soil. The only woody vegetation that is found on the proposed gravel pit area is plains cottonwood (Populus sargentii), tamarisk (Tamarix pentandra) and sand sagebrush (Artemesia filifolia). With the exception of sand sagebrush, the woody vegetation is only a trace of the plant composition on the site.

Grasses make up only 32% of the plant community, but would be the primary species recommended in the reclamation plan. Blue grama (Bouteloua gracilis), buffalograss (Buchloe dactyloides), sand dropseed (Sporobolus cryptandrus), sideoats grama (Bouteloua curtipendula) and western wheatgrass (Agropyron smithii) are the only grass species that were found in more than trace amounts on the proposed pit site.

RECLAMATION PLAN

Prior to the initial mining operation, any salvageable topsoil should stockpiled out of the way of the mining activity and should be protected from nutrient leaching by seeding a cover crop of yellow sweetclover and an annual small grain. If the mining operation is to be of short duration, a waterproof covering could be used in lieu of a vegetative cover.

Following the removal of the gravel and/or sand, the land should be sloped at not greater than 4:1 slopes and then recovered by the stockpiled topsoil to a depth of 12 to 18 inches. It is presumed that the final mining will not expose bedrock, which would preclude the establishment of

vegetative cover. Additional soil improvement could be made by the application of fertilizer according to soil fertility tests and the incorporation of a manure or straw mulch to protect the soil surface from damaging winds during seeding establishment. A nurse crop, where the permanent grasses are planted at the same time as another annual species, should be specifically avoided. A cover crop could be seeded a year before the permanent vegetation is to be planted, therefore providing a firm, weed-free seedbed for the grasses. If water is available from pumps in the recharge pits, it would help insure the survival and the establishment of the permanent cover.

The pit should be reseeded late in the fall, when the soil temperature has dropped to a point where the grasses will not germinate until the spring, when the soils warm up naturally. This timing is generally in mid-December, although in some years may be slightly earlier. A grass drill should be used to plant the grasses, in order that the seeds be placed at the correct depth.

If weed control is necessary in the spring before the grass germinates, an application of a contact herbicide (such as paraquat or Roundup) will suppress the early weed competition from species such as kochia and Russian thistle. 2,4-D or similar herbicides may be used later in the spring following germination, although some of the residual compounds have been known to stunt the grass growth. ALL CHEMICALS WILL BE APPLIED IN ACCORDANCE WITH THE PRODUCT LABEL, AND WILL BE APPLIED BY EXPERIENCED LICENSED PESTICIDE APPLICATORS.

The mixture of grasses recommended for the reclamation of the pit is as follows, according to SCS Standards and Specifications for Critical Area Planting:

Species	% Mix	#/Ac(100%)	#/AC(Mix)
Sideoats grama	70%	9#/ac	6.5#/ac
Blue grama	15%	3#/ac	.5#/ac
Western wheatgrass	15%	16#/ac	2.5#/ac

The seeding rates shown above are listed in pure live seed per acre, rather than bulk rates per acre. It is suggested that the individual that is responsible for the purchase of the seed emphasize to the seed supplier that the seeding recommendations are by PLS (pure live seed). The seed will have to be purchased in bulk amounts, which will vary from the PLS depending on the purity and germination of the specific lot of the seed.

RECEIVED
Mined Land
Reclamation Division
OCT 30 1990

Well Field Pit Lamar, Colo.

Exhibit B
Mining Plan Map

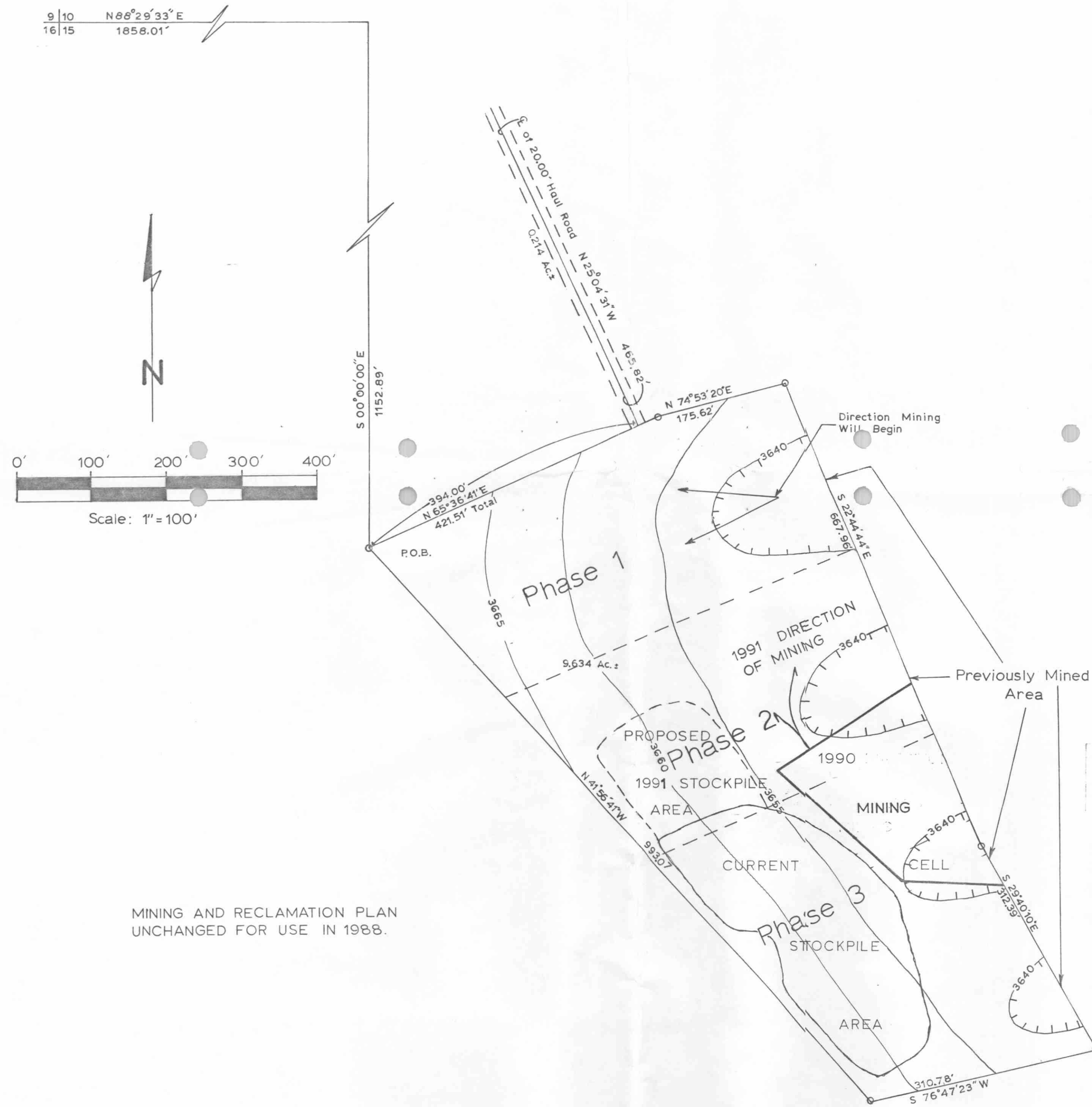
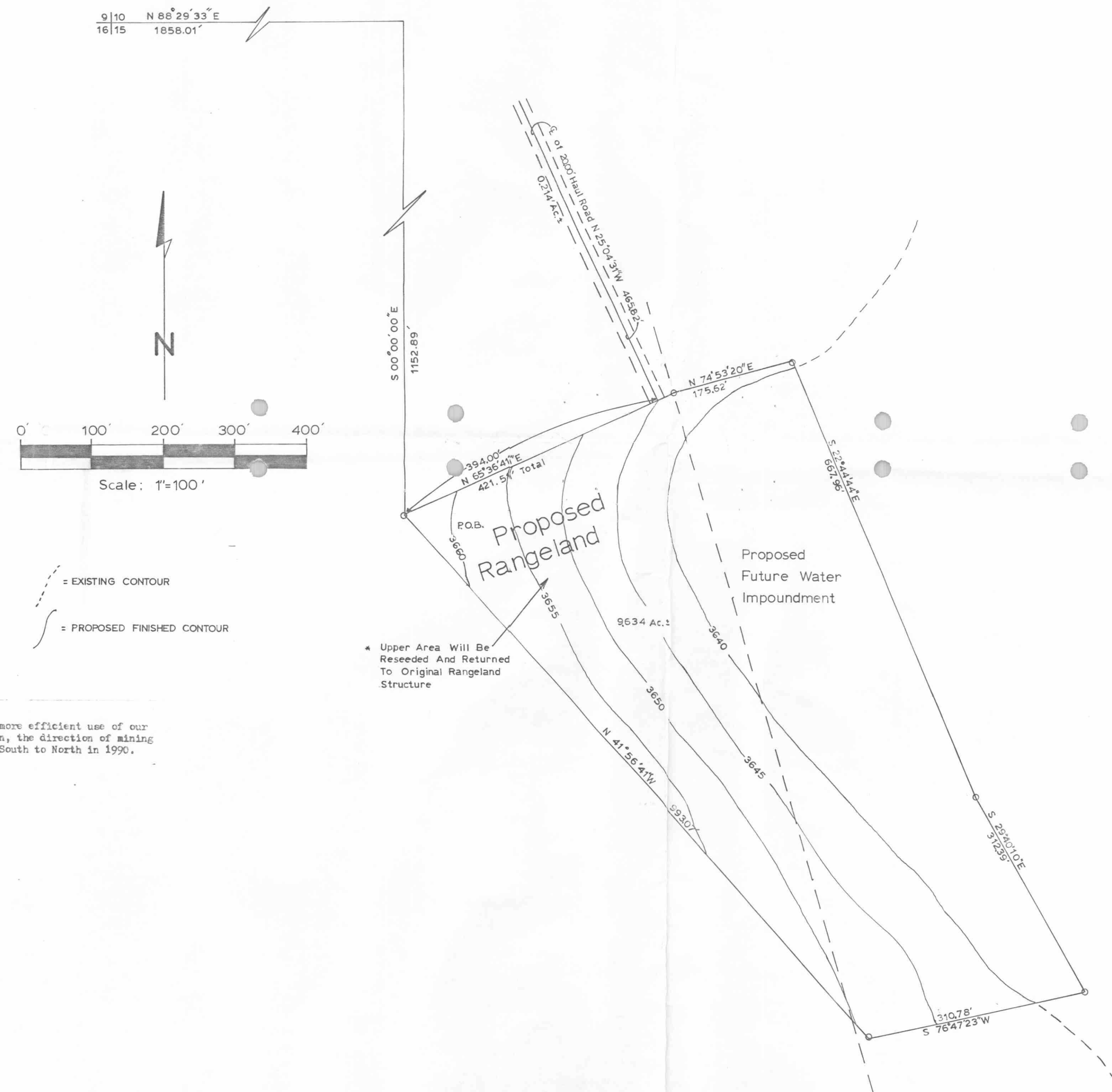


Exhibit E
Reclamation Plan Map



NOTE:
In order for more efficient use of our
gravel pit operation, the direction of mining
will continue from South to North in 1990.

MINING AND RECLAMATION PLAN
UNCHANGED FOR USE IN 1988.

Permit Number M-1984-154
Class: ☒ Permit
Section: ☒ Exhibit
Type: ☒ Reclamation
Class: ☒ Report ☒ Hydro ☒ General
Doc Type: Annual Rpt 1991
☐ Application (Coal only) ☐ Bond ☐ Enforcement ☐ Inspection