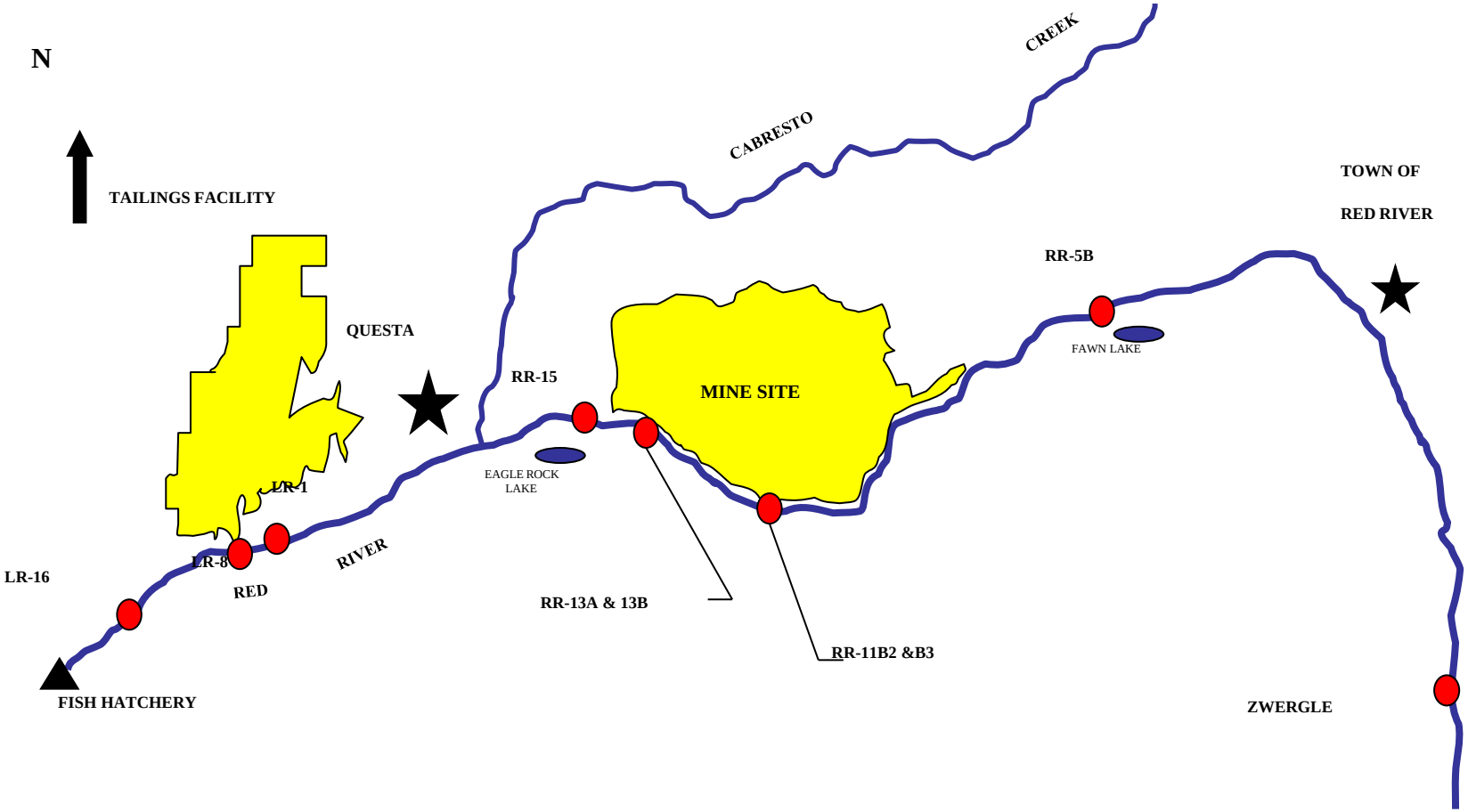
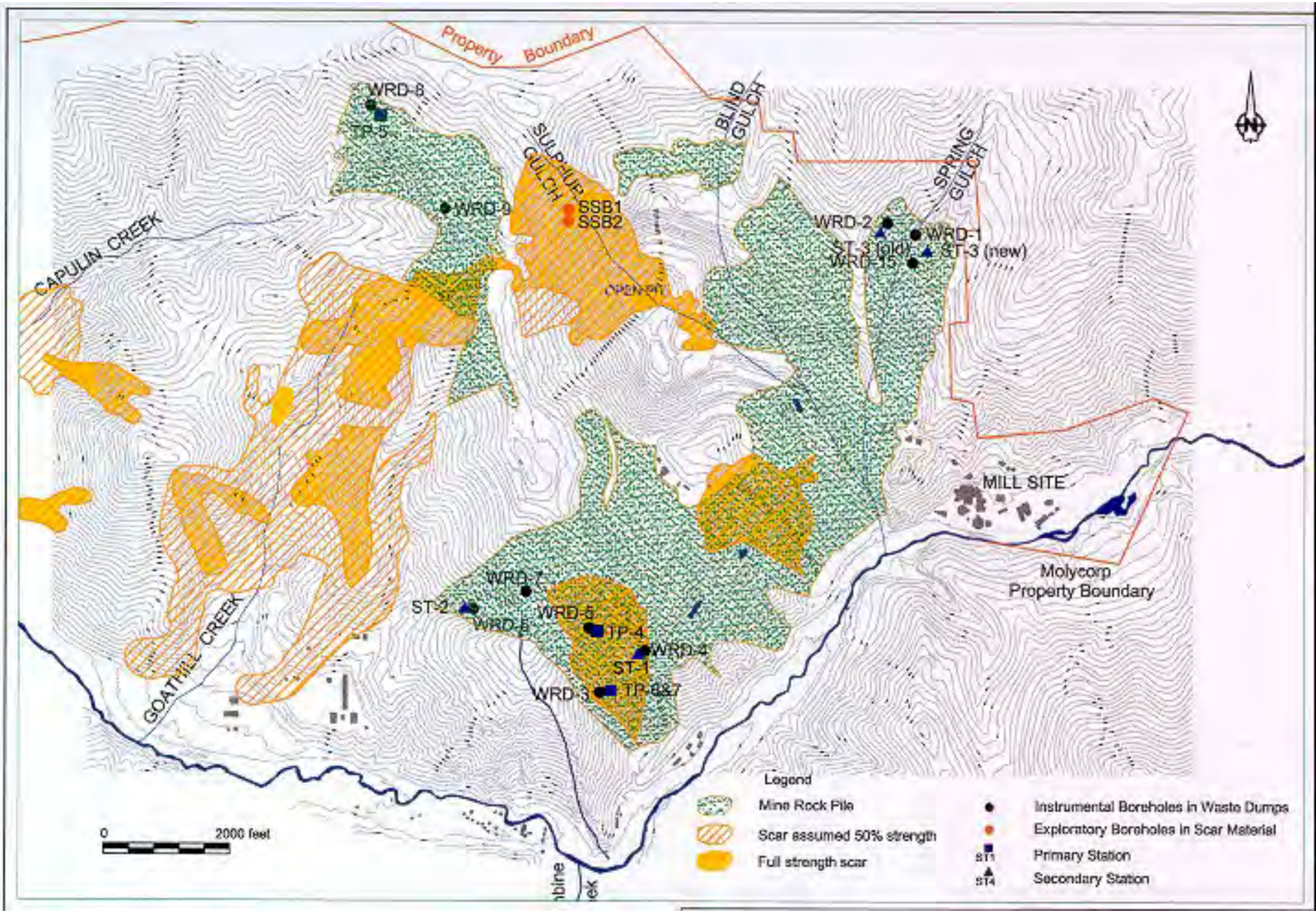
Molycorp Mine Site

Physical Features (Mine Site)

- Approximately 5.5 km from the Village of Questa.
- Area of Mine Site is approximately 16km^2 .
- Encompasses 3 main tributary valley to the Red River: Capulin Canyon, Goat Hill Gulch and Sulphur Gulch.
- Elevation at the min site ranges from 2300m to 3200m.
- Mining activities produced extensive underground workings and an open pit of approximately 0.65 km^2. Also produced approximately 320 million tons of waste rock that around the open pit.


N
TAILINGS FACILITY
CREEK
CABRESTO
TOWN OF
RED RIVER
RR-5B
QUESTA
RR-15
MINE SITE
FAWN LAKE
EAGLE ROCK
LAKE
LR-1
LR-8
RED
RIVER
LR-16
RR-13A & 13B
RR-11B2 &B3
FISH HATCHERY
ZWERGLE


Property Boundary
WRD-8
TP-5
WRD-9
SULPHUR GULCH
SSB1
SSB2
BLIND GULCH
SPRING GULCH
WRD-2
WRD-1
ST-3 (old)
ST-3 (new)
WRD-15
CAPULIN CREEK
OPENPIT
MILL SITE
Molycorp
Property Boundary
WRD-7
ST-2
WRD-6
WRD-5
TP-4
WRD-4
ST-1
WRD-3
TP-6&7
GOATHILL CREEK
0
2000 feet
Legend
Mine Rock Pile
Scar assumed 50% strength
Full strength scar
Instrumental Boreholes in Waste Dumps
Exploratory Boreholes in Scar Material
ST1
Primary Station
ST4
Secondary Station

Sulphur Gulch

Spring Gulch

Middle

Goat Hill North

Geology (Mine Site)

- Precambrian metamorphic assemblages and granitic intrusive rocks overlain by Tertiary volcanic.
- Molybdenite mineralization caused by Late Oligocene and Early Miocene quartz monzonite and granites intrusions.
- Hydrothermally altered volcanics contain pyrite mineralization (1-3%).
- Mineral deposit considered Climax-type deposit.
  - Associated with silca and fluorine rich rhyoloite prophyry and grantitic intursives.
- 3 principal alternation zones.
  - Highly altered quartz-sericite- pyrite zone,
  - Less-altered argillic (koalinite) zones, and
  - Mildly altered propylitic zone.
- Ore deposit contains quartz, molybdenite, pyrite, fluorite, calcite, dolomite, and rhodochrosite with lesser amounts of galena, sphalerite, chalcopyrite, magnetite and hematite.

Climate and Vegetation

- Annual average temperature is 4^0C.
- Annual average precipitation is 52cm.
- Annual average snowfall is 370 cm.
- Prevalent vegetation zones are:
  - Willows, cottonwoods, shrubs, perennial grasses and flowerly vegetation along the Red River,
  - Pinon-juniper woodland (1800-2300m),
  - Mixed conifer woodland (2300-2740m),
  - Spruce-fir woodland (2740-3660m).

Hydrology

- Surface water:
  - Red River originates near Wheeler Peak at an altitude of 3658m and flows roughly 55km to the confluence with the Rio Grande.
  - Peak stream flow occurs from late May to mid June.
  - Summer thunderstorms are prevalent in July and August.
  - Mean annual discharge ranges from 12.8 to 103 ft^3/s, average daily discharge ranges from 2.5 to 750 ft^3/s.
  - Springs and shallow alluvial ground water discharge to the Red River make it a gaining stream over much of its length.

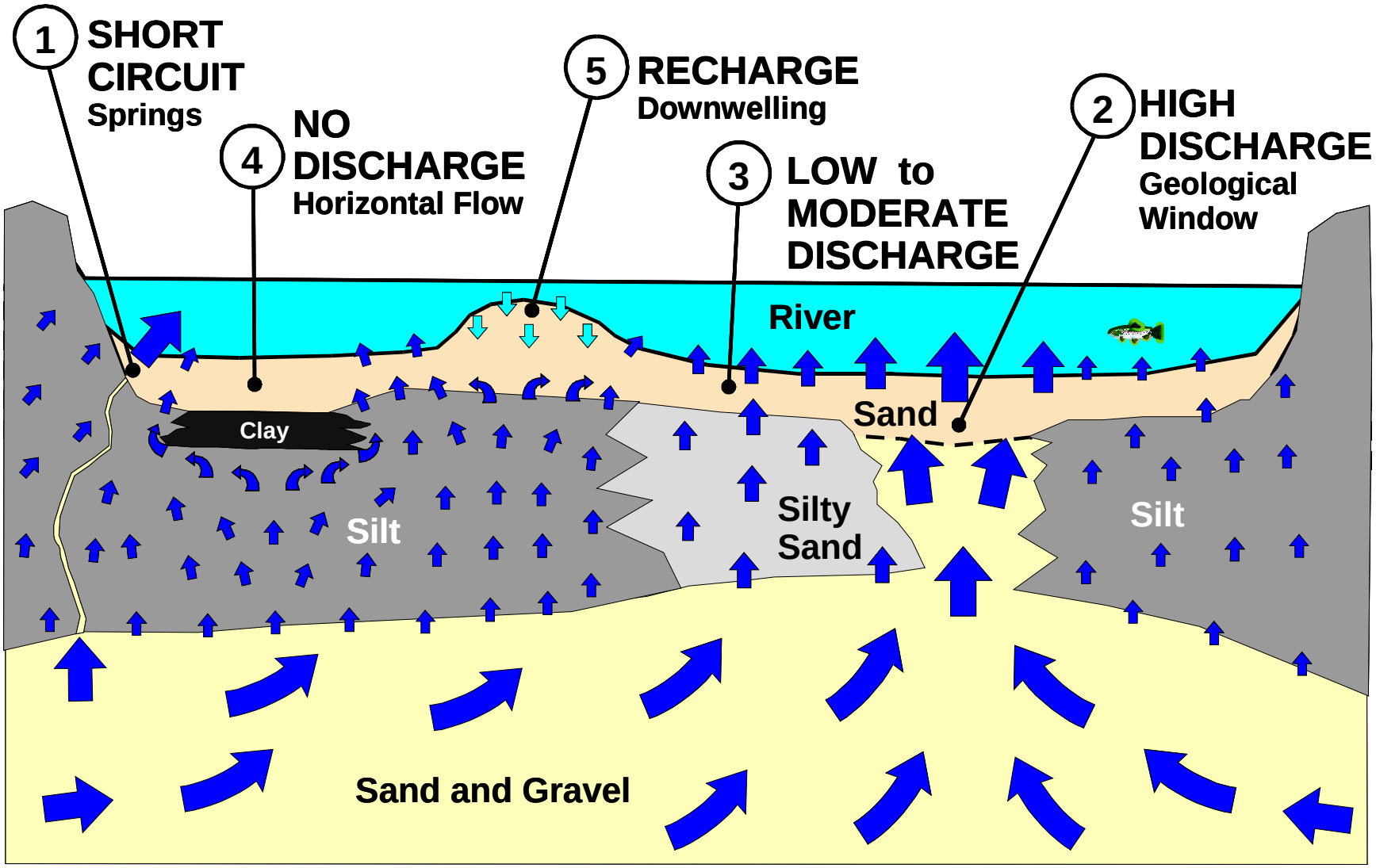
Cabin Springs

Spring 13

Spring 13

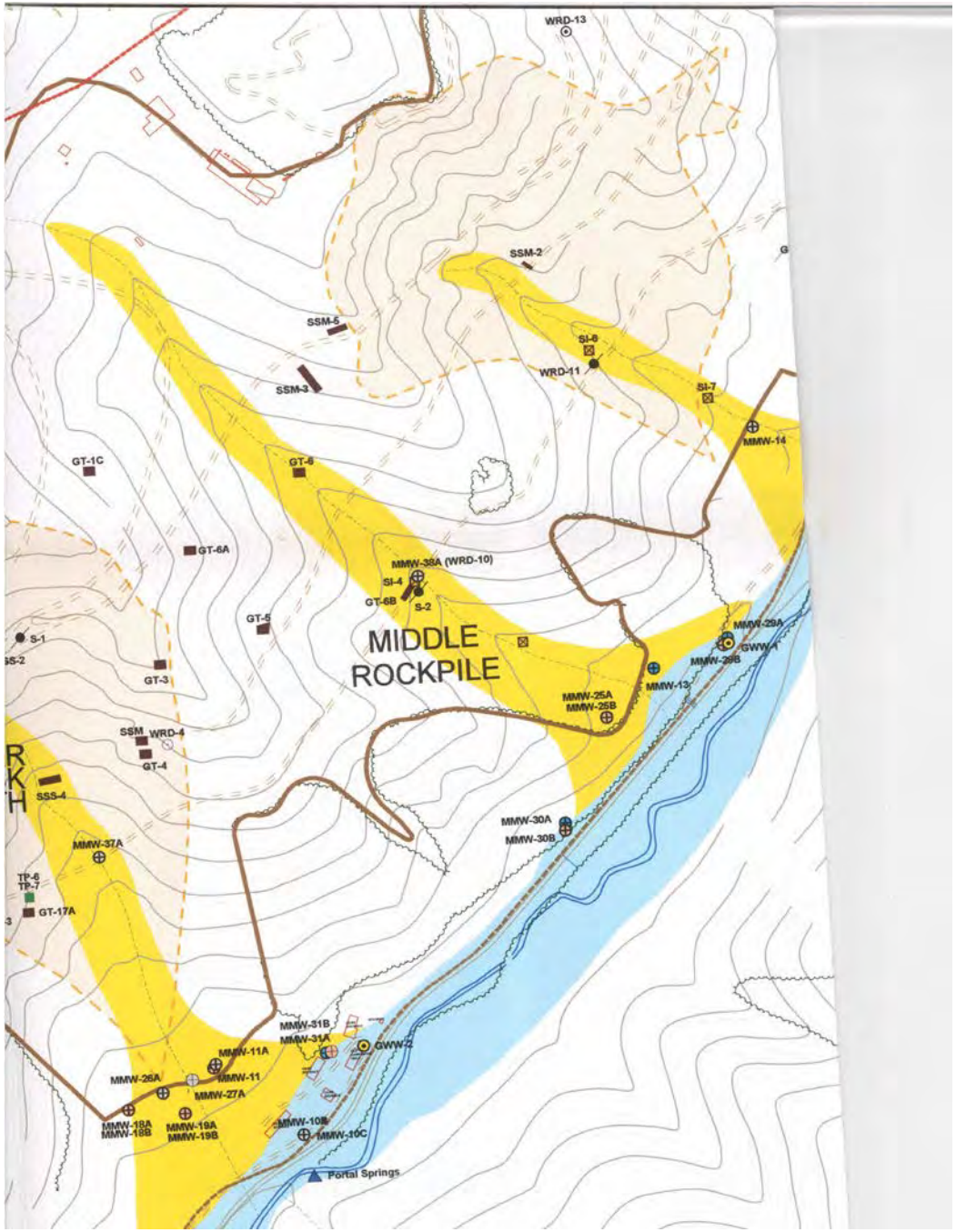
Spring 39 area

Sampling along the Red River

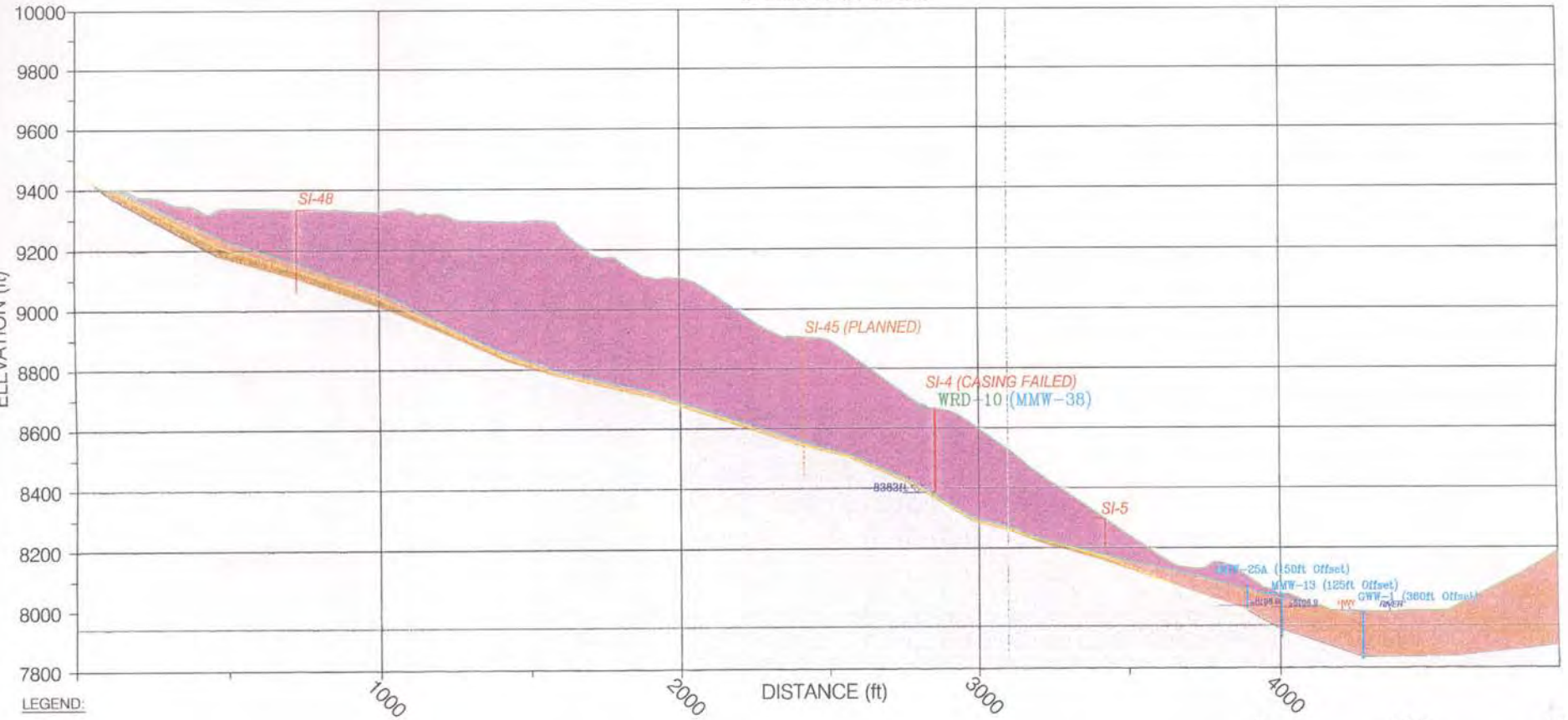

1
SHORT CIRCUIT
Springs
4
NO DISCHARGE
Horizontal Flow
5
RECHARGE
Downwelling
3
LOW to MODERATE DISCHARGE
2
HIGH DISCHARGE
Geological Window
River
Clay
Silt
Silty Sand
Sand
Silt
Sand and Gravel

Hydrology

- Ground Water:
- 4 types of water bearing units:
  - Fractured bedrock
    - Largest volume of aquifer but contains small amounts of water do to its low porosity. Chemically clean (no to little exceedences of State Standards.
  - Waste rock piles, debris fans
    - Geochemically reactive, high porosities and fast infiltration rates. (many exceedences of State Standards)
  - Red river alluvium
    - Restricted in areal extent and have variable composition and chemically clean (no to little exceedences of State Standards)


WRD-13
SSM-2
SSM-5
SSM-3
SI-6
WRD-11
SI-7
MMW-14
GT-1C
GT-6
GT-6A
MMW-38A (WRD-10)
SI-4
GT-6B
S-2
GT-5
MIDDLE
ROCKPILE
MMW-29A
GWW-1
MMW-29B
MMW-13
MMW-25A
MMW-25B
S-1
GT-3
SSM
WRD-4
GT-4
SSS-4
MMW-30A
MMW-30B
MMW-37A
TP-6
TP-7
GT-17A
MMW-31B
MMW-31A
GWW-2
MMW-11A
MMW-26A
MMW-11
MMW-27A
MMW-18A
MMW-18B
MMW-19A
MMW-19B
MMW-10B
MMW-10C
Portal Springs

SUGAR SHACK MIDDLE
SECTION SSM



LEGEND:

- 2003 TOPO
- MINE ROCK
- COLLUVIUM/ ALLUVIUM
- WEATHERED BEDROCK
- BEDROCK

0 500 1000

scale in feet

Molycorp

FIGURE 4
QUESTA MINE
ROAD SIDE PILES
SUGAR SHACK MIDDLE
SECTION SSM

DRAWN BY: PGE
DATE: Sept10-04
REV:00

FIG. 4
FILE: Base Plan-sections_Sept10-04

SCALE
AS SHOWN

NORWES

Constituents of Concerns (Mine Site)

Constituent	Standard (mg/l)	Median concentration for Sugar Shack Middle (mg/l)	Median concentration for Capulin Spring (mg/l)
Aluminum	5.0	378	1150
Beryllium	0.004	0.15	0.36
Cadmium	0.01	0.12	0.57
Chromium	0.05	0.04	0.939
Cobalt	0.05	2.36	3.6
Copper	1.0	3.78	9.6
Fluoride	1.6	92	119
Iron	1.0	12	427
Manganese	0.2	241	550
Nickel	0.2	4.2	8.45
Sulfate	600	7100	15000
Total Dissolved Solids	1000	10750	20000
Zinc	10	29	127
pH	Between 6-9 s.u.	2.95	2.76

Major On going Studies (Mine Site)

- Remedial Investigation/ Feasibility Study (EPA)
- Baseline Study (26 reports)
- Revegetation Study
- Cover Infiltration Study
- Stability Study

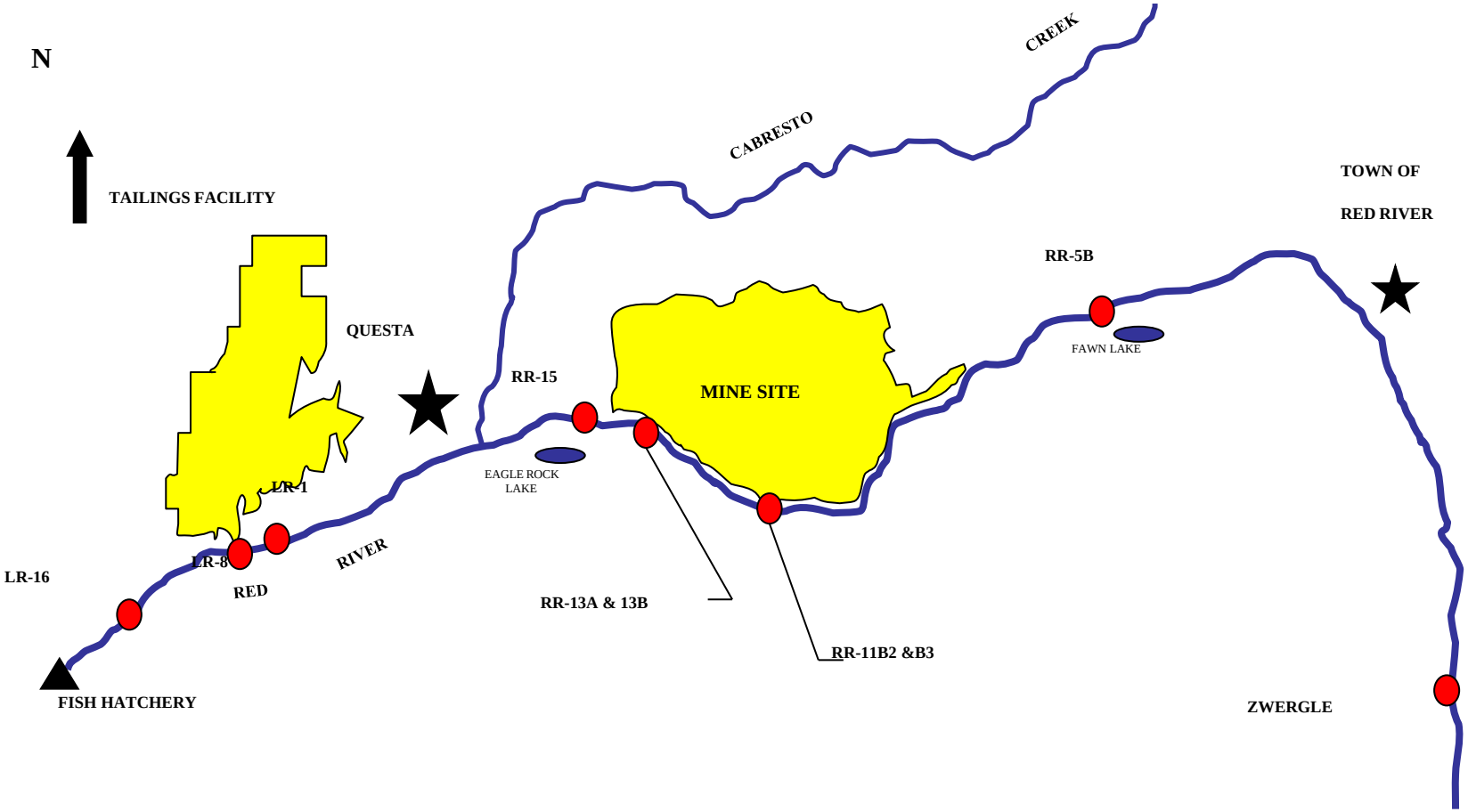
Closure Plan (Mine Site)

- Regrade slopes to 3:1
- Cover with 3 ft of material and vegetate. (infiltration barrier)
- Water treatment

Molycorp Tailing Facility

Physical Features

- Approximately 3.5km from the Village of Questa.
- Area of Tailings Facility is approximately 4km^2.
- Facility sits in 2 southwest draining arroyos (draniages).
- Contains approximately 100 million tons of tailings.


N
TAILINGS FACILITY
CREEK
CABRESTO
TOWN OF
RED RIVER
RR-5B
QUESTA
RR-15
MINE SITE
FAWN LAKE
EAGLE ROCK
LAKE
LR-1
LR-8
RED
RIVER
LR-16
RR-13A & 13B
RR-11B2 &B3
FISH HATCHERY
ZWERGLE


2 3:01PM

Geology

- Alluvial Sediments of the Santa Fe Group
  - Consists of sand, gravel and clays.

Climate and Vegetation

- Average annual precipitation is 40 cm.
- Vegetation consists of sagebrush/grassland with Pinon-juniper

Hydrology

- Surface water is diverted around the Facility.
- Ground Water:
- 2 main units
  - Upper and Lower Aquifer Units made up of interfingering of sands, gravels and clays. (Dams 1and 2)
  - Basalts (Dams 3, 4, and 5)

Constituents of concern

- Molybdenum
- Fluoride
- Manganese

Closure Plan (Tailings)

- Cover with 1 meter of material and vegetate. (infiltration barrier)
- Create positive drainage off facility.
- Capture and treat seepage.