

STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

222 So. 6th St, Room 232
Grand Junction, Colorado 81501



July 19, 1988

Roy Romer
Governor

Thomas M. Vernon, M.D.
Executive Director

Certified Mail No. P 167 106 969

Frank Bergstrom
Sunny Side Gold, Echo Bay Corp.
P. O. Box 177-1303 Snowdon
Silverton, CO 81433

Re: Annual Inspection of Wastewater Treatment Facilities for Terry Tunnel,
Mayflower Mill and American Tunnel, respectively, CPDES Permit No.
CO-0036056, CO-0000426, and CO-0027529, San Juan County

Dear Mr. Bergstrom:

Enclosed is your copy of the above report form for the inspection performed on June 16th and June 17th. During the inspection the following items were noted and need to be brought to your attention:

TERRY TUNNEL

1. The lime feeder was broken at the time of inspection and during Dave Dauber's sampling on June 9, 1988. Chemical addition is necessary to achieve precipitation and adequate treatment. You must repair your chemical feed apparatus.
2. It appears that both settling ponds are leaking and discharging into the groundwater. These ponds must be lined or groundwater monitoring wells may be required.
3. The flow measuring device leaks and is not level, and therefore cannot measure flow to an accuracy of 10% as required in your permit.
4. Your discharge permit must be amended to show the new location of the flow measuring device.
5. The methods of storage for diesel and the other unknown chemicals in 55 gallon drums is inconsistent with your Materials Containment Plan (MCP) and inadequate. The close proximity of the chemicals to Eureka Creek creates a very dangerous environmental hazard. In the event that the diesel tank is punctured, or a drum is tipped over, the contents would go into the creek. You must amend your MCP to adequately address the storage of the hazardous materials.

MAYFLOWER MILL

The trapezoidal flume leaks and does not have a staff gauge. This flow measuring device does not measure to an accuracy of 10% as required by your permit and must be repaired.

This is to notify you that the conditions at your Wastewater Treatment Facility as listed above constitute a violation of the Colorado Water Quality Control Act. This office must be notified in writing, within 30 days of receipt of this letter, of your course of action to bring this wastewater treatment system into compliance. Failure to notify this office within the required time limit may result in legal action.

Additionally:

TERRY TUNNEL

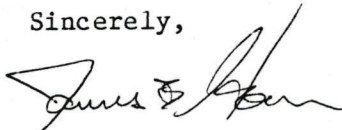
Please provide us with the method you use to gain access to the Terry Tunnel during the winter months.

AMERICAN TUNNEL

1. Due to the high frequency of power failures at this facility we strongly recommend that you seek a back-up power supply to insure continuous permit compliance.
2. It appears as though the settling ponds were short-circuiting at the time of my inspection. I believe that it is due to accumulated sludge and the arrangement of outfalls in the ponds. We strongly recommend that you solve these problems to facilitate compliance.
3. "Non-Potable Water" signs should be posted in showers to inform workers that they should not drink this water.

Thank you for your time and cooperation. If you have any questions, please call me in the Grand Junction Office at 248-7154.

Sincerely,



James B. Horn
District Engineer
Water Quality Control Division

JBH/mb

cc: San Juna County Sanitarian
Permits & Enforcement Section, CDH
Field Services, Denver
EPA, Region VIII
Dan Hernandez, MCR,
Sharon Ferdinandsen
Leslie Simpson (Inspection Report only)
File

CDPS/NPDES FACILITY INSPECTION REPORT

SECTION A: NATIONAL DATA SYSTEM CODING

Transaction Code	CDPS/NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 <input type="text"/> 2 <input type="text"/> 3 <input type="text"/> 4 <input type="text"/> 5 <input type="text"/> 6 <input type="text"/> 7 <input type="text"/> 8 <input type="text"/> 9 <input type="text"/> 10 <input type="text"/> 11 <input type="text"/> 12 <input type="text"/> 13 <input type="text"/> 14 <input type="text"/> 15 <input type="text"/> 16 <input type="text"/> 17 <input type="text"/> 18 <input type="text"/> 19 <input type="text"/> 20 <input type="text"/>					
Remarks (See Code)					
21	Reserved	Facility Evaluation Rating	BI	QA	CO.
67	<input type="text"/>	70 <input type="text"/>	71 <input type="text"/>	72 <input type="text"/>	73 <input type="text"/> 74 <input type="text"/> 75 <input type="text"/> 76 <input type="text"/> 77 <input type="text"/> 78 <input type="text"/> 79 <input type="text"/> 80 <input type="text"/>

SECTION B: FACILITY DATA

Name of Facility Inspected Sunnyside Gold -- Terry Tunnel		Entry Time 3:00	<input type="checkbox"/> AM <input type="checkbox"/> PM	Permit Effective Date 7-15-87
Physical Location 10 miles NW of Silverton		Permit Expiration Date 3-31-92		
Name(s) of On-Site Representative(s) Frank Bergstrom		Title(s) Environmental Manager		Phone No(s) 387-5533
Address P.O. Box 717 - 1303 snowdon		City Silverton	State CO	Zip 81433
Name of Person Conducting Inspection James B. Horn		Title District Engineer		

SECTION C: AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

Permit	Flow Measurement	Pretreatment	Operations & Maintenance
Records/Reports	Laboratory	Compliance Schedules	Sludge Disposal
Facility Site Review	Effluent/Receiving Waters	Self-Monitoring Program	Other:

SECTION D: OPERATION/MAINTENANCE

Operator in Charge: _____ No. of Operators: _____

Budget: \$ _____ Salaries: \$ _____ Utilities: \$ _____ Maintenance: \$ _____

Chemicals: \$ _____ Sludge: \$ _____ Other: \$ _____ Unit Trmt. Cost/1,000 gals.: \$ _____

Collection System: No. of Taps: _____ No. of Lift Stations: _____

Pop. Eq. Served: _____ I/I Program: _____ Treatment Process: _____

Design Capacity: Hydraulic: _____ Organic: _____

Present Loading: Hydraulic: _____ Organic: _____ % Cap. _____

SECTION E: MONITORING AND COMPLIANCE

Type and location of flow measuring equipment: _____

Accurate, (Yes/No): _____ If (No), Comment: _____

Date of Last Calibration: _____

Lab performing DMR analysis: _____

Analysis in compliance with approved procedures, (Yes/No): _____ If (No), Comment: _____

Sampling in compliance with permit requirements, (Yes/No): _____ If (No), Comment: _____

Physical description of receiving stream: _____

Does facility meet permit requirements: _____

List facilities deficiencies: _____

Comments: _____

CDPS/NPDES FACILITY INSPECTION REPORT

SECTION A: NATIONAL DATA SYSTEM CODING

Transaction Code		CDPS/NPDES				yr/mo/day		Inspection Type		Inspector		Fac Type													
1	2	3	4	5	6	7	8	9	10	11	12	13	14												
	5	C	0	0	0	2	7	5	2	9	11	12	8	8	0	6	1	7	17	18	C	19	S	20	2
Remarks (See Code)																									
21 Reserved Facility Evaluation Rating BI QA CO. Operator in Charge Class & Cert. # 66 67 69 70 3 71 N 72 73 5 6 74 75 80 Not Certified																									

SECTION B: FACILITY DATA

Name of Facility Inspected		Entry Time		Permit Effective Date	
Sunnyside Gold -- American Tunnel		2:00		11-05-88	
Physical Location		Permit Expiration Date			
7 miles North of Silverton		3-31-92			
Name(s) of On-Site Representative(s)		Title(s)		Phone No(s)	
Frank Bergstrom		Environmental Manager		387-5533	
Address		City		State	
P.o. Box 717 - 1303 Snowdon		Silverton		CO	
Name of Person Conducting Inspection		Title		Zip	
James B. Horn		District Engineer		81433	

SECTION C: AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

Permit	Flow Measurement	Pretreatment	Operations & Maintenance
Records/Reports	Laboratory	Compliance Schedules	Sludge Disposal
Facility Site Review	Effluent/Receiving Waters	Self-Monitoring Program	Other:

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Budget: \$ _____ Salaries: \$ _____ Utilities: \$ _____ Maintenance: \$ _____

Chemicals: \$ _____ Sludge: \$ _____ Other: \$ _____ Unit Trmt. Cost/1,000 gals.: \$ _____

Collection System: No. of Taps: _____ No. of Lift Stations: _____

Pop. Eq. Served: _____ I/I Program: _____ Treatment Process: _____

Design Capacity: Hydraulic: _____ Organic: _____

Present Loading: Hydraulic: _____ Organic: _____ % Cap. _____

SECTION E: MONITORING AND COMPLIANCE

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Date of Last Calibration: _____

Lab performing DMR analysis: _____

Analysis in compliance with approved procedures, (Yes/No): _____ If (No), Comment: _____

Sampling in compliance with permit requirements, (Yes/No): _____ If (No), Comment: _____

Physical description of receiving stream: _____

Does facility meet permit requirements: _____

List facilities deficiencies: _____

Comments: _____

CDPS/NPDES FACILITY INSPECTION REPORT

SECTION A: NATIONAL DATA SYSTEM CODING

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	5	C	D	D	0	0	4	2	6									S	2
Remarks (See Code)																			
Reserved		Facility Evaluation Rating					BI		QA		CO.		Operator in Charge Class & Cert. #						
67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
			3	N					9	6									Not Certified

SECTION B: FACILITY DATA

Name of Facility Inspected		Entry Time		Permit Effective Date	
Sunnyside Gold --- Mayflower Mill		1:00		6-11-87	
Physical Location		<input type="checkbox"/> AM <input checked="" type="checkbox"/> PM		Permit Expiration Date	
1 mile NW of Silverton				3-31-92	
Name(s) of On-Site Representative(s)		Title(s)		Phone No(s)	
Frank Bergstrom		Environmental Manager		387-5533	
Address		City		State	
P.O. Box 717 - 1303 Snowdon		Silverton		CO	
Name of Person Conducting Inspection		Title		Zip	
James B. Horn		District Engineer		81433	

SECTION C: AREAS EVALUATED DURING INSPECTION

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

Permit	Flow Measurement	Pretreatment	Operations & Maintenance
Records/Reports	Laboratory	Compliance Schedules	Sludge Disposal
Facility Site Review	Effluent/Receiving Waters	Self-Monitoring Program	Other:

SECTION D: OPERATION/MAINTENANCE

Operator in Charge: _____ No. of Operators: _____

Budget: \$ _____ Salaries: \$ _____ Utilities: \$ _____ Maintenance: \$ _____

Chemicals: \$ _____ Sludge: \$ _____ Other: \$ _____ Unit Trmt. Cost/1,000 gals.: \$ _____

Collection System: No. of Taps: _____ No. of Lift Stations: _____

Pop. Eq. Served: _____ I/I Program: _____ Treatment Process: _____

Design Capacity: Hydraulic: _____ Organic: _____

Present Loading: Hydraulic: _____ Organic: _____ % Cap. _____

SECTION E: MONITORING AND COMPLIANCE

Type and location of flow measuring equipment: _____

Accurate, (Yes/No): _____ If (No), Comment: _____

Date of Last Calibration: _____

Lab performing DMR analysis: _____

Analysis in compliance with approved procedures, (Yes/No): _____ If (No), Comment: _____

Sampling in compliance with permit requirements, (Yes/No): _____ If (No), Comment: _____

Physical description of receiving stream: _____

Does facility meet permit requirements: _____

List facilities deficiencies: _____

Comments: _____

INDUSTRIAL INSPECTION REPORT

I. OWNERSHIP

County San Juan CDPS No. CO-0027529 Date 6-17-88

Facility Name Sunnyside Gold -- American Tunnel

Legal Owner Echo Bay Company

Mailing Address P.O. Box 717 - 1303 Snowdon

City Silverton State CO Zip 81433

Facility (Physical Location) 7 miles North of Silverton

Business Phone (303) 387-5533 Emergency Phone Same

II. Facility

Plant Products Gold, silver, lead, copper, zinc ores.

Present Production Rate 600 Ton/day Design Production Rate 900 Ton/day

Raw Materials ore.

Adequacy of Materials Containment Plan (MCP) Appears to be adequate.

Treatment Facility Evaluation Treatment of drainage water by pH adjustment (lime), flocculation, precipitation, settling in 4 ponds in series. They are presently treating 3/4 of the water and blending with remaining 1/4. The facility has frequent power failures which upsets the treatment process. Additionally, the ponds appear to be full of sludge and are short circuiting.

Facility Evaluation vs. Permit Due to the high frequency of power failures, I recommend that they install a back-up power supply. Additionally, I think improvements should be made to the ponds to prevent short circuiting. Regarding the water used for showering, signs (NON-POTABLE WATER) should be posted at taps for the workers' safety.

Facility Deficiencies The treatment facility needs a back-up power supply, the ponds are full of sludge and are short circuiting.

Needed/Extra Permit Conditions Require a back-up power supply.

Groundwater Impact Potential low.

III. MONITORING

Location and Type of Flow Measuring Equipment Parshall Flume at discharge point 004
. Accurate and Calibrated Yes.

Lab doing DMR Analysis Intermountain Laboratories located in Farmington NM.

DMR Analyses According to Approved Procedures Yes.

Comments None.

Physical Description Receiving Stream Cement Creek Already colored from upstream
Mine drainage.

IV. COMPLIANCE/ENFORCEMENT

Effluent Limitation Compliance Yes.

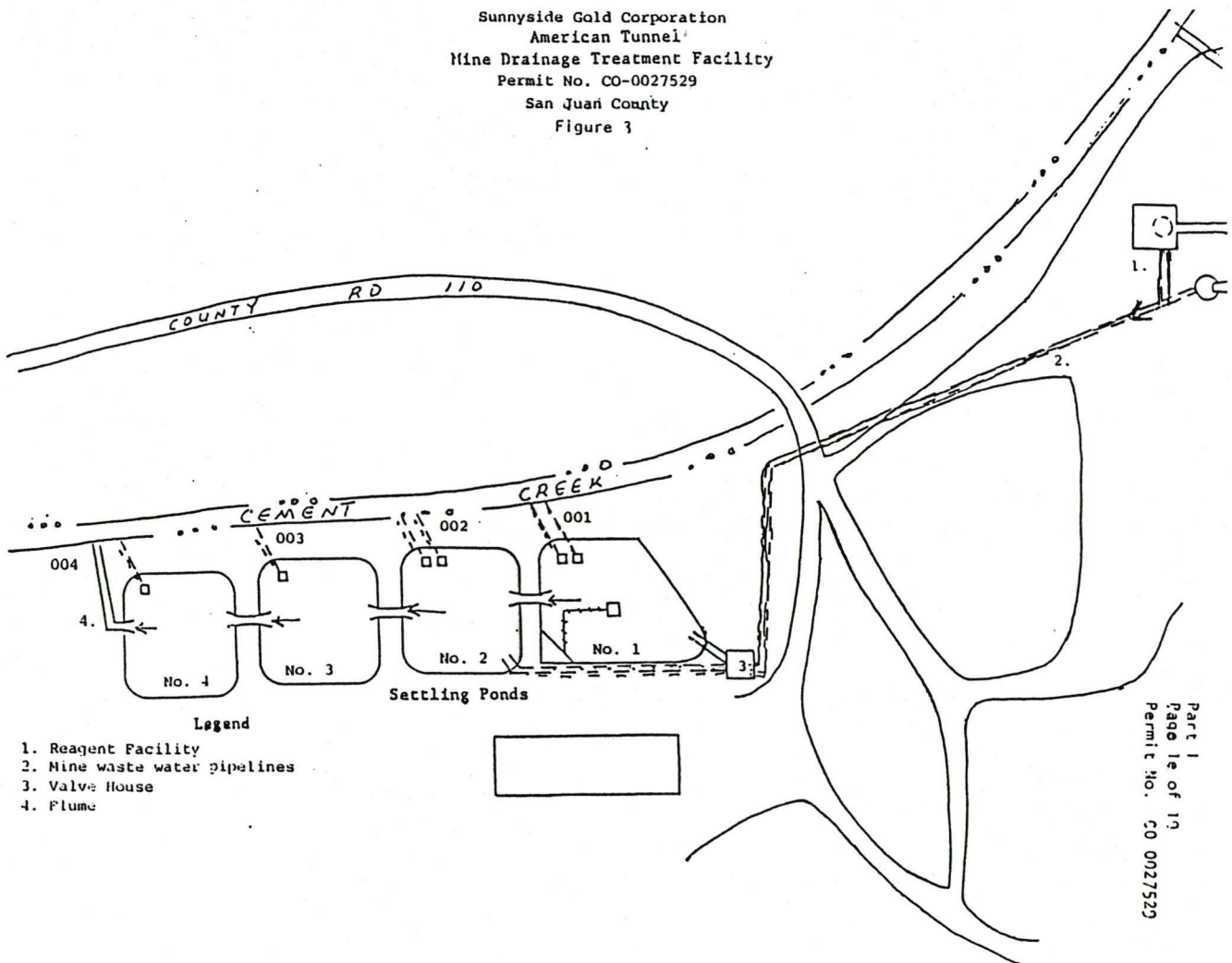
Person Interviewed Frank Burgstrom, Environmental Manager 387-5533

CDH Engineer James B. Horn *James B. Horn* Phone 247-5702

Comments None.

SKETCH

Sunnyside Gold Corporation
American Tunnel
Mine Drainage Treatment Facility
Permit No. CO-0027529
San Juan County
Figure 3



INDUSTRIAL INSPECTION REPORT

I. OWNERSHIP

County San Juan CDPS No. CO-0000426 Date 6-17-88

Facility Name Sunnyside Gold -- Mayflower Mill

Legal Owner Echo Bay Company

Mailing Address P.O. Box 177 - 1303 Snowdon

City Silverton State CO Zip 81433

Facility (Physical Location) 1 mile NW of silverton

Business Phone (303) 387-5533 Emergency Phone Same

II. Facility

Plant Products Gold, silver, lead, copper zinc.

Present Production Rate 600 Ton/day Design Production Rate 900 Ton/day

Raw Materials Ore

Adequacy of Materials Containment Plan (MCP) Chemicals should be stored in a better
manner. Presently they are stored on pallets outside of the mill in an area that is
susceptible to snow slides.

Treatment Facility Evaluation Lime treatment, hypochlorite, cyclone separation,
sedimentation, discharge. Overall chemical precipitation by pH adjustment.

Facility Evaluation vs. Permit Effluent flow measuring device does not measure
to an accuracy of 10% (the trapizoidal flume leaks and does not have a staff
gage).

Facility Deficiencies Needs a more accurate flow measuring device, and improve chemical storage.

Needed/Extra Permit Conditions No.

Groundwater Impact Potential Tailings pile may be a source of groundwater contamination.

III. MONITORING

Location and Type of Flow Measuring Equipment Trapizoidal flume located across the road from from the tailings hill. . Accurate and Calibrated NO.

Lab doing DMR Analysis Intermountain Laboratories located in Farmington NM.

DMR Analyses According to Approved Procedures yes

Comments None.

Physical Description Receiving Stream Animas River in marsh type area.

IV. COMPLIANCE/ENFORCEMENT

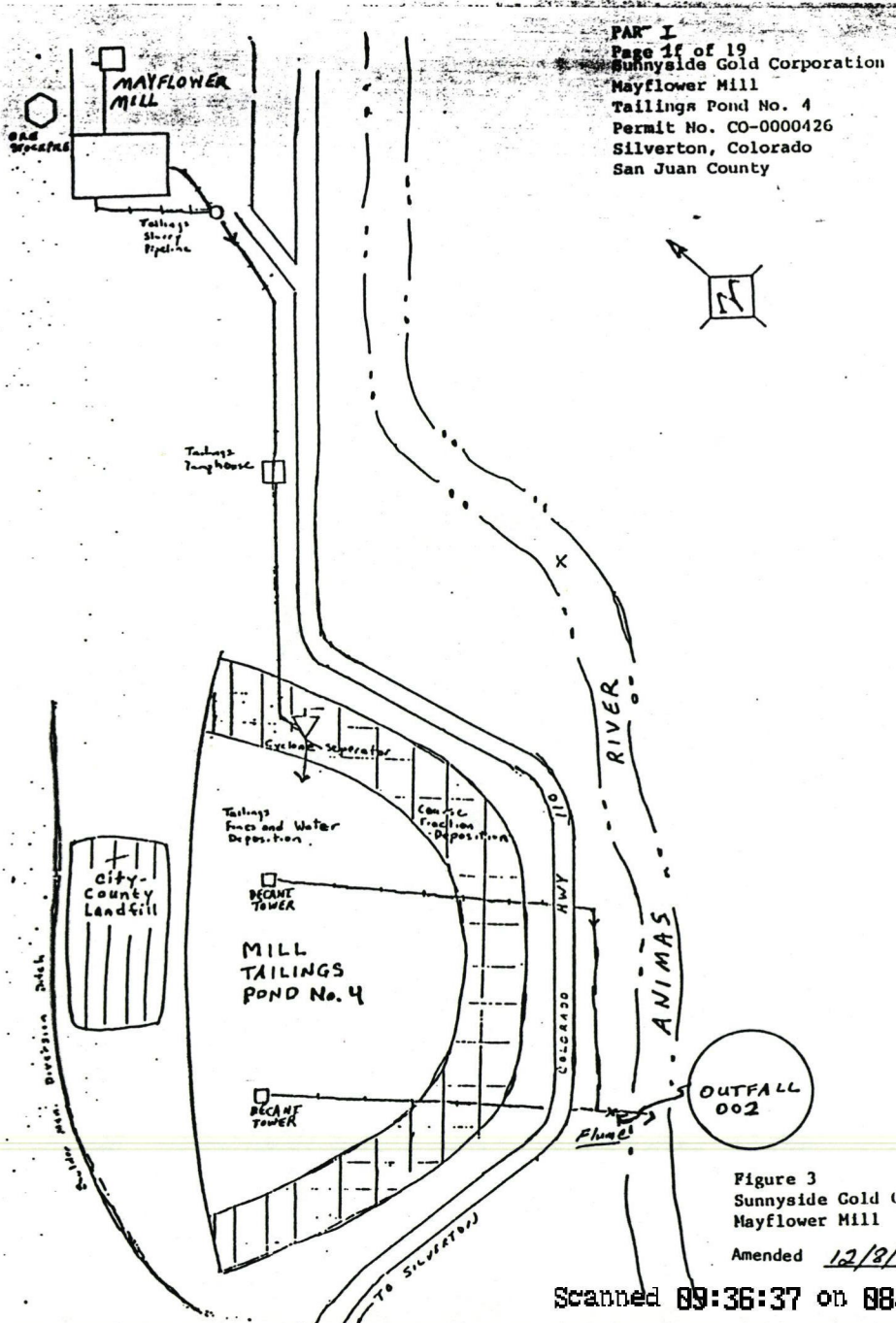
Effluent Limitation Compliance Yes.

Person Interviewed Frank Bergstrom, Environmental Manager 3875533

CDM Engineer James B. Horn *James B. Horn* Phone 247-5702

Comments None.

SKETCH



INDUSTRIAL INSPECTION REPORT

I. OWNERSHIP

County San Juan CDPS No. CO-0036056 Date 6-16-88

Facility Name Sunnyside Gold -- Terry Tunnel

Legal Owner Echo Bay Company

Mailing Address P.O. Box 177 - 1303 Snowdon

City Silverton State Co Zip 81433

Facility (Physical Location) 10 miles N.W of silverton up Eureka Creek.

Business Phone (303) 387-5533 Emergency Phone Same

II. Facility

Plant Products None at this point. It is used for access only, and drainage.

Present Production Rate NA Design Production Rate NA

Raw Materials Used for access to mine for fuel supply air ventelation and drainage.

7/11/89 Hydrated lime
Adequacy of Materials Containment Plan (MCP) NOT ADEQUATE. Improper storage of fuels and other hazardous chemicals on site. 2,000 gal diesel tank w/o spill containment Misc. 55 gal drums (contents not labeled) w/o spill containment. Both near Creek.

PH Process Control new plant issue
Treatment Facility Evaluation Facility at present is not adequate. Lime feeder is broken (they are hand feeding, but very intermittently), the first settling pond is bypassed due to leakage, parshall flume has been relocated w/o a permit amendment and leaks and is not level, second pond is suspected to leak. They plan on repairing the ponds this summer, Mined land reclamation told them to move the flume, they ordere parts for the lime feeder, however their backup feeder was also broken.

→ Facility Evaluation vs. Permit ~~Need to amend your~~ permit to show relocation of parshall flume, flow measuring device not accurate to 10%, not using pond #1, not chemically treating water.

Facility Deficiencies Chemical feed system is inadequate (broken) and there is no back-up equipment. System does not operate in the winter due to access problems.
Ponds need to be lined and also cleaned, with the sludge disposed of in a proper manner.
The flow measuring device needs repair. Fuels and other chemicals (???) need to be labeled and contained in a better manner.

Needed/Extra Permit Conditions Need a more descriptive map of the facility and site in general. Presently the drawing does not function adequately to describe the treatment facility and site in enough detail.

Groundwater Impact Potential Very high potential of contamination of subsurface water from the leaking ponds, and fuels and chemicals stored on the ground.

III. MONITORING

Location and Type of Flow Measuring Equipment Parshall flume located at the base of hill slope at creek side. Accurate and Calibrated NO

Lab doing DMR Analysis Intermountain Laboratories located in Farmington NM.

DMR Analyses According to Approved Procedures Yes.

Comments _____

Physical Description Receiving Stream Headwaters of Eureka Creek, some color from drainage from rock hillside.

IV. COMPLIANCE/ENFORCEMENT

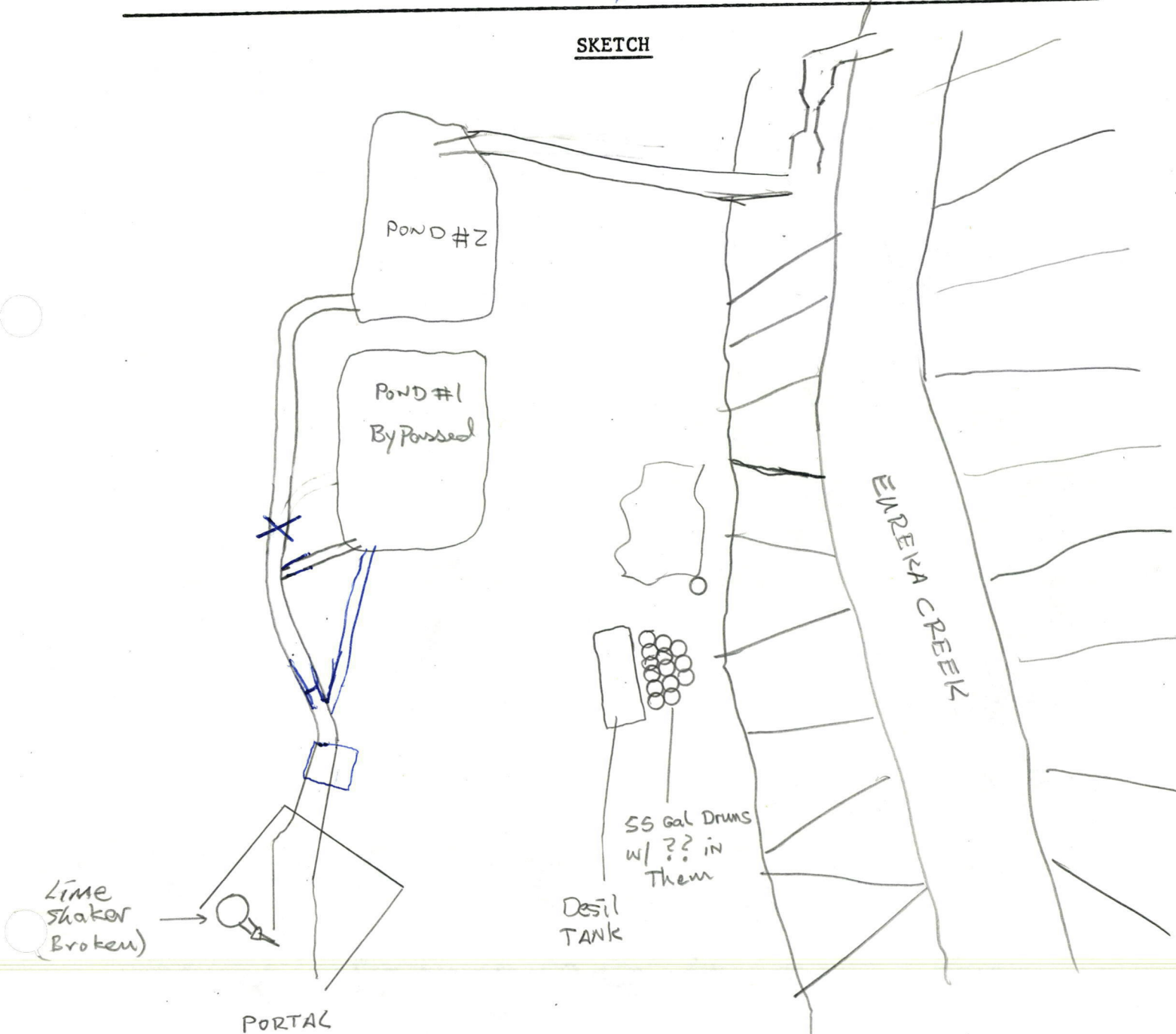
Effluent Limitation Compliance Unknown. Samples taken one week earlier by D. Dauber.

Person Interviewed Frank Bergstrom, Environmental Manager 387-5533

CDH Engineer James B. Horn D.E. Dave Dauber Aid Phone 247-5702

Comments Facility needs alot of work. *James B. Horn*

SKETCH



WATER QUALITY DATA

Colorado Department of Health
Water Quality Control Division

-004
DISCHARGE SAMPLE

Water Lab No. 882603

Bacti Lab No. _____

Rec'd By: A.K.

Name of Sampling Location:

Date and Time Collected:

Sunnyside Blvd - American Tunnel

8806091340
Y Y M M D D Hrs. Min.

Remarks

SC: CO-0027529

Are sample one grab at the
-004 outfall.

County:

If Composite Sample:

San Juan

_____ To _____
Hrs. Min. Hrs. Min.

Frank Bergstrom accepted splits.

Name of Sampler:

Date Received in Water Lab:

Donna Dambin

880610
Y Y M M D D Hrs. Min.

River Sample: Circle if Apply

Date Reported:

Complete Incomplete Special

880808 SA
Y Y M M D D

12" partial flow (eff)

P60 STREAM FLOW (cfs)

P1002 ARSENIC (ug/l)

P1067 NICKEL (ug/l)

P50050 DISCHARGE FLOW (MG/D)

P945 SULFATE (mg/l)

P1147 SELENIUM (ug/l)

P11 TEMPERATURE (F°)

P665 T-PHOS as P (mg/l)

P1077 SILVER (ug/l)

P400 pH (Standard Units)

P70507 ORTHO PHOS as P (mg/l)

P1092 ZINC (ug/l)

P299 DO (mg/l)

P900 T-HARDNESS as CaCO₃ (mg/l)

P1034 T-CHROMIUM (ug/l)

P50060 TRC (mg/l)

P1012 BERYLLIUM (ug/l)

P1032 HEX. CHROMIUM (ug/l)

P410 T-ALK as CaCO₃ (mg/l)

P1027 CADMIUM (ug/l)

P22703 URANIUM-Natural (ug/l)

P556 O & G (mg/l)

P1022 BORON (ug/l)

P1501 GROSS ALPHA (pc/l) P1502

P31615 F-COLI. (per 100 ml)

P1042 COPPER (ug/l)

P9503 GROSS BETA (pc/l) P9504

P310 BOD (mg/l)

P1045 IRON (ug/l)

P3501 DIS. RAD.-226(pc/l) P3502

P530 TSS (mg/l)

P1051 LEAD (ug/l)

P81366 DIS. RAD.-228(pc/l) P81367

P70300 TDS (mg/l)

P1055 MANGANESE (ug/l)

P610 AMMONIA as N (mg/l)

P95 COND (micromhos)

P71900 MERCURY (ug/l)

P625 TKN as N (mg/l)

P720 T-CYANIDE (mg/l)

P1062 MOLYBDENUM (ug/l)

P630 NITRITE/NITRATE as N (mg/l)

NEGATIVE
AUG 09 1988
FIELD SERVICES & MONITORING SECTION
DENVER