CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the A. F. Budge Mining Ltd. Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

CUSTOM EQUIPMENT CORPORATION

P.O. Box 747

350 West 300 South
(801) 533-8557

Salt Lake City, Utah 84110
Telex 381014

PROPOSAL
TO
A. F. BUDGE MINING LTD.
SCOTTSDALE, ARZIONA

From
CUSTOM EQUIPMENT CORPORATION
SALT LAKE CITY, UTAH

FOR OPERATION OF THE VULTURE PROJECT
NEAR WICKENBURG, ARIZONA

March 29, 1988

General Terms

Custom Equipment Corporation (CEC) proposes to operate for A. F. Budge Mining Ltd. the tailings handling, solution application and recovery, and gold recovery operations of the Vulture mine near Wickenburg, Arizona, for the life of the project, estimated at 12 months mining time and 18 months overall time from start of plant construction to final detoxification of the heap and removal of the processing plant.

Budge Mining Ltd. (Budge) now owns much of the equipment necessary for this operation and is in the process of obtaining the remainder of the equipment. (CEC, as a separate proposal, is submitting to Budge a price for much of the additional required equipment.) Budge Mining is also currently in the process of building leach pads and solution containment ponds for this operation. CEC will, as a part of the operating contract, be responsible for necessary construction, assembly and start-up of all processing equipment; and of final plant and heap decommissioning and equipment removal.

The CEC proposal is based on discussion between CEC, Budge, and Budges's consultant, Frank Millsaps.

Significant change to the scope or nature of operations from those discussed above or listed herein may necessitate modifications in this operating proposal.

A preliminary cost estimate by CEC (Table I) indicates that the direct operating costs per ton of tailings treated will be $4.80. CEC's cost estimate work sheets are included as Appendix 1 to this proposal.

CEC proposes that Budge will pay for all operating and related costs, and will assign to CEC for its operation management service the 10% of the revenue from the bullion produced from the operation.

CEC also proposes as follows:

- if total direct plant operating costs are below 95% of the agreed operating budget for any operating quarter,

  or

- if total quarterly gold production exceeds the original budgeted amount,

then Budge will pay to CEC at the end of that quarter an amount equal to 25% of the cost saving and 25% of the income from additional gold sales.

TABLE I

Estimated Direct Operating Costs
Vulture Mine Project

	$/Op. Week[1]	$/Yr	$/T
Manpower	$7,430	$386,000	$1.69
Power, Utilities	987	51,000	.22
Reagents, Chemical	5,314	276,000	1.26
Maintenance Supplies	1,000	52,000	.23
Operating Supplies	200	10,000	.05
Contract Services	1,600	83,000	.37
Loader Operation (excl. operator)	1,540	80,000	.35
Office Operation - allowance	200	10,000	.05
Subtotal	$18,271	$948,000	$4.17
Contingency @ 15%			.63
Total			$4.80

[1]Basis 19,000 tpm, 4400 tpw

Schedule for Operations

For purposes of estimating the operating cost for the Vulture Mine project, CEC has made a preliminary schedule of operations, attached as Figure I.

This schedule is based on producing and stacking in heaps 1000 tpd of tailings, and operating on a 5 day week. With an allowance for downtime, this calculates to 19,000 tons per month stacked, or 12 months of tails recovery/stacking for the estimated 225,000 tons of tailings.

Design criteria used by CEC in developing this estimate and operating costs are included as Table II.

CUSTOMER: Budge Mining
FACILITY: Vulture Mine
LOCATION:

BY: Halbe
CHK'D.

CUSTOM EQUIPMENT CORPORATION
P.O. Box 747 350 West 300 South
Salt Lake City, Utah 84110

CALCULATIONS
For Prelim. Schedule

SHEET 1 OF 1
REV. NO. —
DATE 24 Mar '88
JOB NO.

TABLE I - SCHEDULE OF OPERATIONS - VULTURE MINE PROJECT

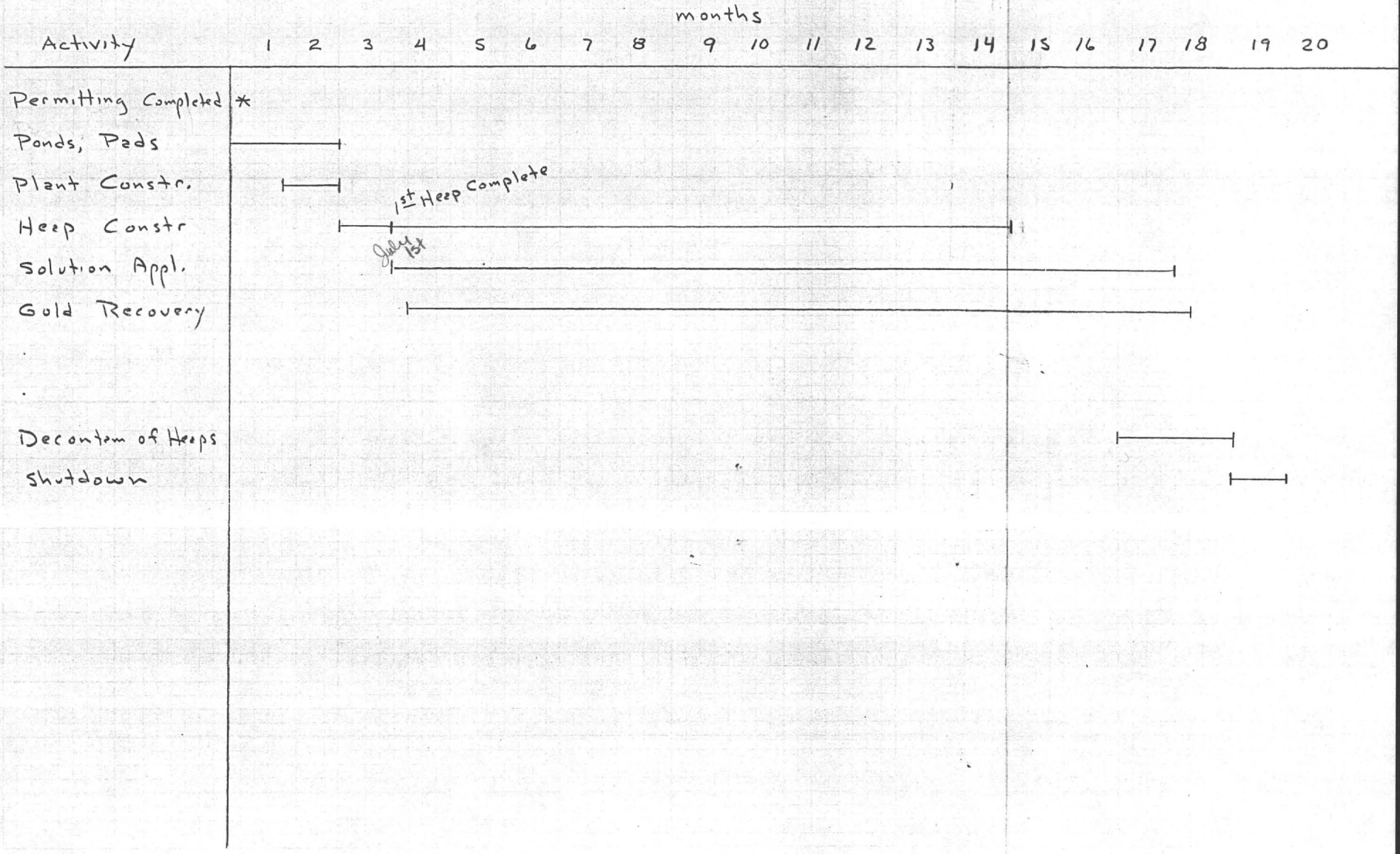


TABLE II

Preliminary Design Criteria
Vulture Mine Project

Mine/Agglomerate/Build Heaps

Item	Quantity	Source
Tonnage	125 tph	Budge
Working hours/day	10	CEC rec.
Working days/week	5 (optional 6 for catch-up)	CEC rec.
Operating Availability: daily	80%	CEC est.
Average Operating days/month	19 (out of 21 available)	CEC est.
Tonnage - tpm	19,000	Calc.
tpw	4,400	Calc.
Design grade	.045 oz/T	Budge

Leach/Recovery Plant

Spray Schedule	24 hours/day, 7 days/week	CEC rec.
Design flow to plant	100 gpm - design (125 gpm - max)	Budge
Est. Gold Extraction - Lab	70-72%	DML
Design Extraction	65 ?	CEC est.
Gold Recovery per month	556	Calc.
per week	129	Calc.

Operating Details

A working flow sheet sketch, which was used for the basis for this cost estimate, is shown as Figure II.

CEC will hire and manage, as employees of Budge Mining, a full-time foreman and crew, estimated as follows, to operate the Vulture property:

1 - Foreman
1 - Loader Operator (tails)-988 Loader-moving tailings to agglomerator
1 - Loader Operator (heaps)
1 - Agglomerator operator
1 - Recovery unit operator/refiner
1 - Alternate Recovery operator
1 - Utility man
1 - Maintenance man
1 - Watchman when operating crew is not on site

Agglomeration and stacking will take place on 10-hour shifts, 5 days per week. The recovery unit operators and utility man will work 8 hours a day 6 days a week, to allow 7-day per week coverage of the plant and heaps with at least 2 men.

The operating unit will perform the following tasks:

- Load and haul tailings by loader from the tailings area and feed them into the agglomerator feed circuit

- Operate the agglomerator

- Load the agglomerated tailings onto heaps as proposed by Budge

- Lay and move periodically all pipe and sprinklers required for solution distribution

- Operate all solution ditches, ponds and pumps

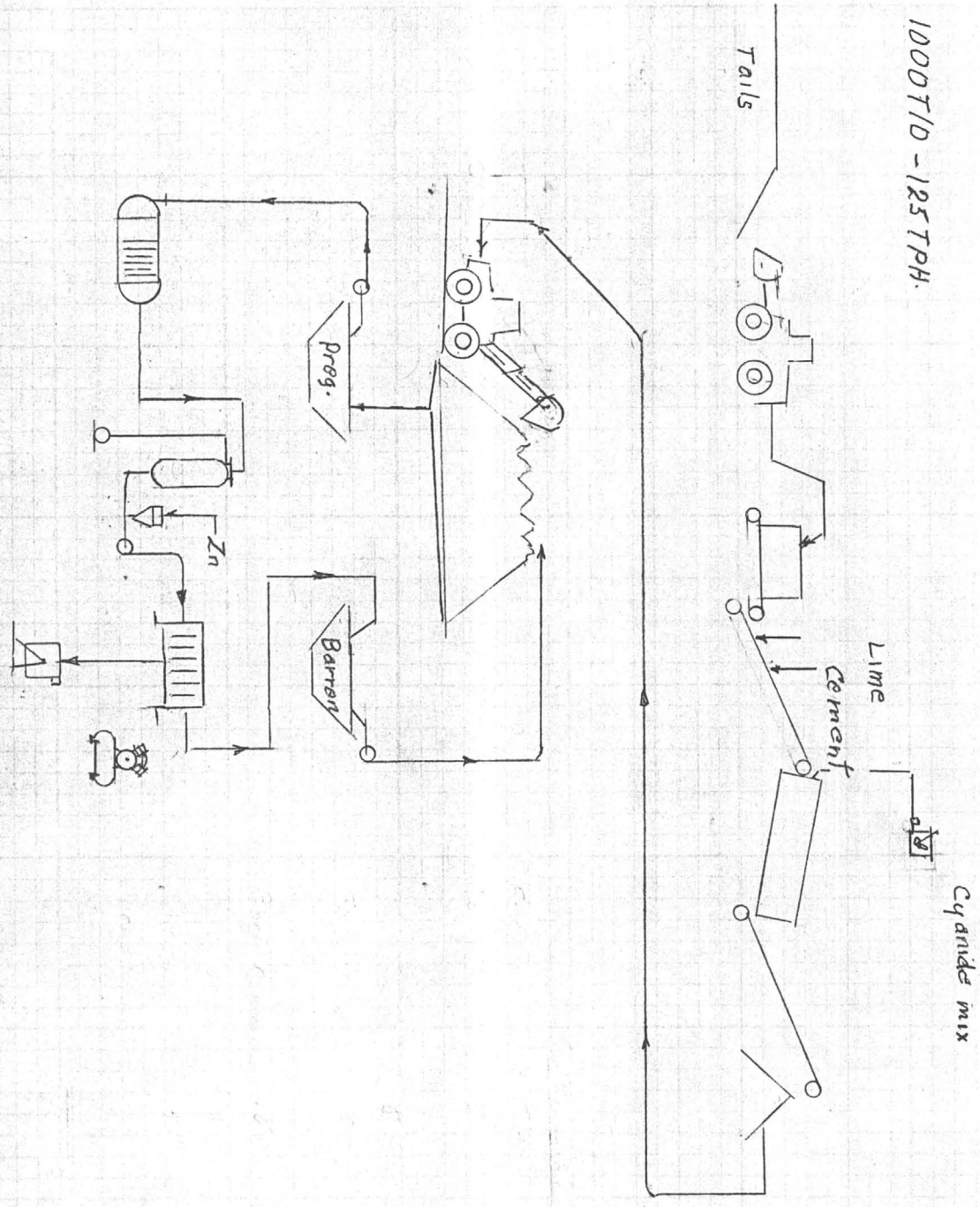
- Operate the gold recovery plant to produce gold/silver bullion for shipment

- Maintain all equipment used above using on-site personnel or contract services

- Operate and maintain all additional on-site equipment used for operation of the project, including power generation

- Analyze daily plant solutions for operating control and metallurgical balancing, take samples of tailings for outside analysis, and send sample of bullion to an outside lab for analysis

CUSTOMER: Budge **FACILITY:** Vulture mine **LOCATION:** Wickenburg., Az.	**CUSTOM EQUIPMENT CORPORATION** P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET 1 OF 1 REV. NO. _____ DATE _____ JOB NO. _____
BY: R. Wilson **CHK'D.**	_____ CALCULATIONS For _____	



CEC's technical staff in Salt Lake City will provide the following:

- A monthly report summarizing operations, costs, and metallurgical results
- Routine metallurgical evaluation of results and troubleshooting, estimated at 4 days/month on site, after start-up, and 1 day/month office time
- Continuing mechanical/operational evaluation and troubleshooting as required
- Assistance in purchasing
- Management of further metallurgical testwork, if required
- A representative for a monthly review meeting in Scottsdale to review the previous month's operation and discuss future operations
- Other technical/operating/cost/management assistance to the operation as may be required

Budge will provide or be responsible for the following services:

- Payroll services for all full-time employees on site, based on time sheets and documentation to be provided by the foreman
- Payment to suppliers of all capital, operating and maintenance supplies purchased for the operation by the foreman, using a purchase system as defined by Budge
- Grade control for tailings mining/removal
- All legal, environmental and permitting actions and costs for this operation
- All efforts and costs related to property taxes, insurance, and related items
- All actions related to transportation, security and sale of the bullion
- Management witness of precipitation press clean-up and bullion melting, for security purposes
- All royalty and similar payments

CEC will also provide the following:

- An on-site supervisor and a construction crew (likely a portion of the operating crew) for assembly of the processing plant and related facilities; estimated at 1 supervisor plus a crew of 4 for 4 weeks

- A metallurgical engineer (or engineers) on site for initial start-up and run-in of operations, estimated at 6 man weeks from start-up, and 2 weeks work prior to start-up

- Technical assistance at decommissioning of the plant, estimated at 4 man weeks

- An on-site supervisor and a construction crew for disassembly and shipment of the plant to storage (or another site) and final clean-up of the site, estimated at 1 supervisor plus, a crew of 3 for 2 weeks.

Payments and Accounting

Prior to final acceptance of this proposal, CEC and Budge will jointly develop a final "agreed operating budget" for the entire life of the project. Expenditures in excess of 15% above this operating budget will require the approval of Budge. CEC will update this budget quarterly, based on operating results and projections ("revised operating budget").

As indicated above, payroll and payments to suppliers will be handled and paid by Budge based on information supplied to Budge by the site foreman. Budge will also supply to CEC documentation for these payments to be used by CEC for cost control and reporting.

Budge will arrange for transportation, insurance and sale of the bullion from site, and will provide CEC with documentation related to returns from the sale of bullion.

CEC will bill Budge monthly for technical services and management fee. The monthly management fee will be based on 90% of the estimated received value of bullion shipped for that month, and corrected to 100% of the actual received value when final settlement is made from the gold purchaser.

Key Personnel

Primary metallurgical and operational control of the project would be under the direction of Doug Halbe, consulting metallurgist of CEC's consulting subsidiary, Met-Tek. As indicated in the attached resume (Appendix 2), Mr. Halbe has had extensive experience in the U.S. and Australia in operating processing plants and acting as consultant to processing projects.

Also directly available for operational control of the project would be C.O. (Bud) Gale. As indicated in his attached resume, Mr. Gale has had extensive experience in metallurgical processing and plant operation, and has been involved in the start-up and troubleshooting of several gold recovery plants since joining CEC.

Also attached to this proposal are resumes' of other CEC's technical and management staff with expertise related to this proposal. Any of these CEC personnel may be assigned to the Vulture project as required.

Start-up Costs included in direct operating costs

In the calculation sheets included as Appendix 1, CEC has estimated not only the cost of routine operations, but also the expected additional operating costs attributable to start-up. These are summarized below:

Metallurgical/Technical Consulting	$33,000
Contract Mechanical/Electrical Services	8,000
Analytical/Metallurgical Testing	10,000
	$51,000

These costs do not include any construction management or construction costs.

Decommissioning Costs

CEC assumes that a number of specific tasks will be required by the State of Arizona and/or desired by Budge to decommission the project. These would likely include decontamination of the heaps, evaporation and/or decontamination of residual cyanide-bearing solutions, removal or covering of sludge in the ponds, and equipment removal. This proposal has indicated briefly some technical assistance and construction supervision for such work, but CEC is unable to make a reliable estimate of time or costs without a more detailed program for decommissioning.

APPENDIX 1

DIRECT OPERATING COSTS:
CALCULATIONS SHEETS

CUSTOMER: Budge FACILITY: Vulture Mine LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET ____ OF ____ REV. NO. ____ DATE 29 Mar '88 JOB NO. ____
BY: Halbe CHK'D. COG	____ CALCULATIONS For Manpower	

Title	No.	Days/wk	Hrs/day	St. Time Rate	Fringe Factor [3]	$/wk	Total $/wk
Foreman [1]	1	5½	10	$42,000/yr	30%	1050	1050
Loader Op.	2	5	10	13.00/hr	30	930	1860
Agglom. Op.	1	5	10	11.50	30	820	820
Recov. Op. [2]	2	6	8	11.50	30	780	1560
Utility Man [2]	1	6	8	10.50	30	710	710
Maint. Man	1	5	10	13.00	30	930	930
Watchman	1	Non-op hrs.		20,000/yr	~~30~~ 35	500	500

8 hourly
+ 1 salaried

$7430/wk

or $386,000/yr

or $1.69/t

Notes

1 Foreman handles time cards, schedules crews, supervises maintenance, keeps basic maintenance & operating records, plans & arranges for contract maintenance, does some purchasing.

2 These 3 people cover 7 days/week. Manning is 3 men/shift M-Th, and 2 men/shift F-Sun. Responsible for recovery plant, AA, mixing reagents and solution to & from heap.

3 Fringe includes provision for vacation pay

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET 1 OF 2 REV. NO. DATE 30 Mar '88
BY: Halbe CHK'D. CDG	CALCULATIONS For Power, Utilities	JOB NO.

Motor List - Preliminary

	Hp	
Tails hopper feeder	5	
Agglom. feed belt	7.5	
Agglomerator	40	
Cement feeder	1	
Lime feeder	1	
Cyanide solution agitator	3	
Cyanide solution pump	1	
Stacker conveyor	7.5	
Pellet hopper feeder	5	
Pad stacker	7.5	
Barren solution pump	15	*
Preg. sol'n pump	15	*
Vacuum pump	5	*
Zn feeder	1	*
Precip. filter pump	10	*
Furnace blower	1	
Compressor	5	
Lighting & Misc	7	*
	137.5	= 103 kw
Contingency @ 25%		25
Total - 10 hr/day operation		128 kw

* Total 24 hr/day operation (from above)

53 hp 40 kw

+25% 10

50 kw

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET 2 OF 2 REV. NO. DATE JOB NO.
BY: Helbs CHK'D.	CALCULATIONS For Power, Utilities (p.2)	

Power calc's

$\frac{50\ hr}{wk} \times \frac{128\ kw\ draw}{200\ kw\ inst.} \times \frac{16\ gal\ F.O.}{hr} = 512\ gal\ fuel\ oil$

$118\ \frac{hr}{wk} \times \frac{50}{200} \times 16 = 472$

984 gal Fuel oil/wk

@ $0.80/gal (excl. road taxes)

= $787/wk

Add $120/wk for oil, filters, misc. parts & contract maintenance 120

Add est. $80/wk - existing 75 hp pump gen. 80

$867/wk

or $0.22/t

Fuel (propene) for melting furnace

$30/melt @ 1 melt/wk

< $0.01/t

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET ____ OF ____ REV. NO. ____
BY: Halbe CHK'D. CWS	CALCULATIONS For Chemicals, Reagents	DATE 24 Mar '88 JOB NO. ____

Item	Est. Usage	Reagent cost del. [2]	$/t of ore	$/wk [1]
Cement (to agglom.)	10 lb/T	$71/t	.36	1584
Na_2CN (to agglom.)	0.5 lb/T	$0.85/lb	.60	2640
Na_2CN (make-up)	0.2 lb/T	$0.85/lb		
Lime (to agglom.)	5 lb/T	$60/t	.15	660
Water treat Chem	15 ppm (22 lb/day)	$0.95/lb		150
Zn dust	45 lb/day	$0.80/lb		250
Lead nitrate	5 lb/day	$0.55/lb		20
Fluxes, precoat	3 lb/lb Au (28.1b/wk)	$0.40/lb		10
				$5314

or $276,000/yr

or $1.21/t

Notes

1 Basis 4400 t/wk, 125 gpm of solution to pptn.

2 Est. from CEC files, and supplier quotes

CUSTOMER: Bodge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET ____ OF ____ REV. NO. ____
BY: Helbe CHK'D. COH	CALCULATIONS For Supplies	DATE 24 Mar '88 JOB NO. ____

Maintenance Supplies (Annual)

Large plant: 2.5 - 7.5 % of installed plant cost

2.5 % × est $650,000 = 16,250 /yr

7.5 % 48,750 /yr

For small plant suggest $100 /wk

Operating Supplies

Est. @ 20 % of maint. supplies

(Includes minor lab supplies in this case)

$200 /wk

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET 1 OF 2 REV. NO. DATE 29 Nov '88
BY: Halbe CHK'D.	CALCULATIONS For Contract Services	JOB NO.

Metallurgical / Technical

Basis: 2 wks. on-site insp. & office work prior to start-up
6 wks. on-site @ start-up and run-in
5 days/mo. during routine operations (2½ days on-site, ½ for monthly meetings, 1 in CEC office, 1 travel)
4 wks - decommissioning

	Start-up		Routine Op/mo.		Decommission	
Consult. days @ $500[1]	48	$24,000	5	$2500	24	$12,000
Air fare @ $400/trip	3	1200	1	400	2	800
Carriental @ 60/day	48	2880	5	300	24	1440
Lodging, food @ 100/day	48	4800	5	500	24	2400
		$32,880		$3700		$16,640

Best Western in Wickenburg $40/night

($0.19/t)

Notes
1 Internal CEC consulting rate

Electrical / Mechanical Maintenance (Wickenburg)

	Start-up		Routine Op'n	
Mech. work in shop or callout @ $250/day	18 days	$4500	1 day/wk	$250
Elec. work as above	12 days	$3000	1 day/wk	250
		$7500		$500/wk

($0.11/t)

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET 2 OF 2 REV. NO. DATE 29 Mar '88
BY: Halbr CHK'D.	CALCULATIONS For Contract Services - 2	JOB NO.

Analytical / metallurgical

Allow $10,000 start-up

$15,000 project routine operation
($1000/mo or $0.07/t)

CUSTOMER: Budge FACILITY: LOCATION:	CUSTOM EQUIPMENT CORPORATION P.O. Box 747 350 West 300 South Salt Lake City, Utah 84110	SHEET ____ OF ____ REV. NO. ____
BY: Halbe CHK'D.	____ CALCULATIONS For Loader Operation	DATE 29 Mar '88 JOB NO. ____

988- per F. Millsaps, from Cat dealer:

Total cost for Vulture Min project (operator, maintenance, fuel, tires, etc.) = $0.41/t

$0.41/t × 4400 t/wk = $1804/wk
- operator <930>
$874/wk
= $0.20/t

Check:
$874/wk / 40 hr/wk = $22.00/hr op cost

Smaller loader- feed agglomerate to stacker conveyor
estimate 2t $0.15/t

Loader - op cost (includes lube by operator, and contract PM & maintenance) $0.35/t
($1540/wk)

Note: 966 estimated operating cost 20.70/hr not including operator.
from Blue Book

APPENDIX 2

RESUMES - CEC staff for possible assignment on
Vulture Mine Operations

CUSTOM EQUIPMENT CORPORATION

ROBERT A. WILSON
EXECUTIVE VICE PRESIDENT

EDUCATION

B.S. and M.S. degrees from Montana School of Mines in Metallurgical and Mineral Dressing Engineering; over 40 years experience in operation and design of metallurgical plants and equipment.

PROFESSIONAL EXPERIENCE

February 1979 to Present

Custom Equipment Corporation and Met-Tek, Inc.
Executive Vice President

R. A. Wilson, along with George A. Matthews, established Custom Equipment Corporation for the purpose of serving the special needs of the metallurgical industry by furnishing custom designed flowsheets and equipment.

Through Mr. Wilson's expertise, CEC has designed special equipment used for metallurgical processing of gold and silver recovery, including:

- Stripping-Electrowinning circuits and equipment for atmospheric and pressure stripping.
- Carbon regeneration furnaces - oil, gas and electrically heated.
- Acid treatment package systems.
- Zinc precipitation systems.
- Carbon retention and recovery screens.
- Coal distributors.
- Engineering and supply of complete carbon handling and processing equipment.
- Small semi-portable mills.
- Patented turboflute flotation machines.
- Other special equipment not available from larger manufacturers.
- Consulting metallurgical services.

1946-1979 — The Galigher Company, Salt Lake City, Utah
Metallurgical Engineer

In 1951 became Chief Engineer. In charge of all engineering, including the design and operation of many metallurgical plans and circuits.

In 1973 became Senior Consulting Engineer assigned almost exclusively to consulting on metallurgical plant design.

Retired from Galigher Company in 1979.

Prior to 1946 — Had experience in plant operation, equipment manufacture and heavy construction with the Anaconda Company, Ingersoll Rand Company and U. S. Army Engineers.

1938-1939 — J. C. Archibald Company, Helena, Montana
Metallurgist

Gold cyanide-leaching plant.

The following is a typical list of consulting and design work:

- The Anaconda Company - consulting, flowsheet development, plant cost studies and plant design for copper, lead, zinc, molybdenum, uranium-vanadium, aluminum, etc. including gravity, flotation, solvent extraction, resin-in-pulp and autoclaving processes.

- Andes Copper Company - El Salvador, Chile - consulting - copper and molybdenum flotation and moly plant design.

- Bunker Hill Company - Kellogg, Idaho - consulting plant design and cost studies on lead-zinc plants.

- Bethlehem Mines - Consulting and design of special high capacity pulp distributors - coal.

- Calera Mining Company - Cobalt, Idaho - Cobalt copper autoclaving plant consulting and autoclave design.

- Cotter Corp. - Uranium-vanadium autoclave plant consulting and autoclave design.

- Cerro Corp. - New York, New York - consulting and plant design on copper, lead, zinc, molybdenum, tungsten and fluorspar on flotation and gravity plants.

- National Lead Company - consulting and design on high pressure autoclave drives and accessories.

- Studies and consulting work, plant layout, and equpment design for Kennecott Copper, Magma Copper, Minera San Francisco del Oro, Newmont Mining Corp., Texas Gulf, Inc., and including varied consulting assignments in the U.S., Alaska, Canada, Mexico, Peru, Bolivia, Chile, Australia, Europe and Africa.

PROFESSIONAL ORGANIZATIONS

Licensed Professional Engineer
Member - AIME - SME
American Mining Congress

Patents include high pressure autoclave drive, pumps and agitation and equipment, and carbon reactivation furnace.

CUSTOM EQUIPMENT CORPORATION

CHARLES O. GALE
VICE PRESIDENT, TECHNICAL AND MANUFACTURING

EDUCATION

B.S. and M.S., Metallurgical Engineering, Montana College of Mineral Science and Technology, Butte, Montana

PROFESSIONAL EXPERIENCE

July 1984 to Present	Custom Equipment Corporation, Salt Lake City, Utah Technical consultant, plant and equipment design, construction assistance, plant startup, equipment service and troubleshooting. Plant startup assistance includes: Aiguebelle, Lac Shortt, Kiena, Equity Silver, Calgom, Relief Canyon, Carlin Gold Quarry, Carlin Dump Leach, Mesquite, Sleeper, Callahan Ropes Mill.
1978-1984	Western Zirconium, Division of Westinghouse Plant construction, startup and operation. Project engineer site civil, utilities and general facilities, waste water containment and evaporation ponds. Manager of plant maintenance, Manager of fabrication products. Project engineer titanium feasibility study joint venture with Mitsubishi.
1976-1978	Western Zirconium Integrated zirconium extraction and fabrication plant design, site studies, government agency permits. Minor partner in Western Zirconium, Inc. Project sold to Westinghouse in 1978.
1973-1976	Alcan Canadian Products, Arvida, Quebec Staff Engineer - Continuous casting and rolling mill startup and operation. Electrolytic magnesium plant design.
1972-1973	N L Magnesium, Salt Lake City, Utah Staff Engineer - Electrolytic magnesium plant startup.
1971-1972	Teledyne Wah Chang Albany Corporation, Albany, Oregon Senior Engineer - Process design; carbide recovery systems, zircon chlorination.
1967-1971	Oregon Metallurgical Corporation, Albany, Oregon Integrated titanium reduction plant, project engineer design, construction and startup of magnesium recovery plant. Superintendent magnesium recovery, Superintendent ore chlorination plant.

PROFESSIONAL ORGANIZATIONS

Licensed Professional Engineer, State of Oregon; Member and Director, Ogden Engineers; Past Chairman, Oregon Section AIME. Member Utah Section AIME.

CUSTOM EQUIPMENT CORPORATION

ROBERT G. COUCHER
VICE PRESIDENT, RESEARCH & DEVELOPMENT

EDUCATION

B.S. Degree in Geology from University of Utah 1954 - Graduated with Honors

PROFESSIONAL EXPERIENCE

February 1984 to Present — Custom Equipment Corporation, Salt Lake City, Utah

Since joining CEC, he has worked extensively on assignments in New Guinea, Australia and South Africa. His major activities have been related to CEC's proprietary furnaces, and to the installation, commissioning and up-grading of adsorption systems. He has also served as field engineer and liaison with prime contractors on major projects, such as Carlin Gold in the Western United States.

Prior to 1984 — The Anaconda Company, Kerr McGee Minerals, Ralph M. Parsons, United Park City Mines, and Hogle-Kearns International

Duties and Responsibilities (in chronological order): Mine Surveyor, Mine Engineer, Mine and Mill Superintendent, Grade Control Engineer, Mine Engineer, Chief Mine Engineer, Senior Engineer, Turkey, (Murgul Project), Manager of Mines, Director of Research.

Responsibilities have included all of the usual duties assigned to the various levels of Mine Engineer. Mine plant design and overseeing construction both surface and underground, structural design of hoisting and hauling systems, design and fabrication of deep shaft sinking work decks and assessories, slip forms for continuous shaft pouring; design, equipment selection, and installation of slurry transport systems, overseeing mine and mill operations, and management of mining and milling operations. Supervised and participated in researching Cathodic Metal Protection, applied high temperature physics.

Mineral Experience: Lead, zinc, silver, copper, mercury, uranium, phosphate, and gold.

Achievements: Long distance transport of deslimed slurries, designed and installed equipment for the application of anti-fretting surfaces to the internal surfaces of aircraft turbine hubs. Designed and supervised the installation of system for the application of polymer coatings to the internal surfaces of cans at rates of 500 cans per minute.

Patents: Several patents for skip and skip pocket design, (all assigned) improved valve seats for high pressure reciprocating slurry pumps, pressurized powder feeding device for introducing precise quantities of materials into gas streams, device for the high speed application of metered quantities of polymer coating to the inner surface of containers, an improved electrode confirguration for improving vortex stabilization and electrode life in plasma generators, and other patents.

PROFESSIONAL ORGANIZATIONS

AIMI (SME 54)

CUSTOM EQUIPMENT CORPORATION

JOSEPH LEROY PETERSON
ENGINEERING CONSULTANT

EDUCATION

B.S. in Mechanical Engineering, Post graduate work in Metallurgical Engineering, University of Utah.

PROFESSIONAL EXPERIENCE

1980 to Present — Custom Equipment Corporation, Salt Lake City, Utah

Activities include design and construction supervision of:

- Custom Vertical Furnaces for carbon reactivation
- Custom Coal Distributors - self powered and powered
- Custom Electrolytic Cells
- Custom Pilot Plant for Carbon Regeneration
- Plant layout, special transport equipment, etc.

Field work:

- Operated pilot plant
- Start-up of furnaces at several installations
- Development and testing of new equipment

1970-1980 — Eimco/Envirotech, Salt Lake City, Utah

Served a ten year contract 1970 to 1980 working as an aid to the president, Product Manager for Multiple hearth furnaces and coolers, Project Manager in field and office for Martin Marietta project in Michigan; Project manager for testing and installation of two 430' thickeners at Cuajone, Peru; Project Manager for design and purchase of equipment for Elba Shima sodium sulphate plant in Tehran, Iran; Field installation superintendent for filtration and sedimentation portion of flowsheet of FENI project at Kavadarci, Yugoslavia; Asst. Manager of Field Service, Project Manager for Arizona Nuclear Power Project.

1952-1969 — W. S. Tyler Company, Mentor, Ohio

District Manager for mountain states area handling both the wire cloth and screening division work and the elevator division work while located in Salt Lake City. Period covered 1951 through 1966. Promoted to Chief Project Engineer in 1963 and moved to Mentor, Ohio in 1966.

1937-1951 The Galigher Company, Salt Lake City, Utah

Started as a designer with them in 1937 and was in charge of the Engineering Department from 1940 through May 1951. Designed the hollow-shaft model of the Agitair Flotation Machine, worked on the early design of the Vacseal Pumps, also developed the "chain" model automatic sampler. Also helped with preparation of flowsheet and equipment specifications.

Prior to 1937 Worked for General Engineering Co., Utah Power and Light Co., AAA Aerial Survey, International Smelting and Refining Co., Bonneville Ltd. on Utah's Salt Flats, spent a year with the U.S. Coast and Geodetic Survey and Utah State Road Commission.

PROFESSIONAL ORGANIZATIONS

Licensed Professional Engineer

MET-TEK, INC.

DOUGLAS N. HALBE
VICE PRESIDENT & GENERAL MANAGER

PROFESSIONAL, REGISTRATION AND EDUCATIONAL

Member American Institure of Mining, Metallurgical and Petroleum Engineers

Member Australasian Institute of Mining and Metallurgy

Registered Professional Engineer, State of Colorado

Metallurgical Engineer, Colorado School of Mines - 1961

Master of Science, Metallurgical Engineering, Michigan Technological University - 1969

WORK EXPERIENCE

July 1984 - Present	Vice President and General Manager, Met-Tek, Inc. (A wholly-owned subsidiary of CEC Industries Corp. In-house consulting for projects on plant flowsheet, design and start-up. Consulting to mining companies worldwide, particularly in gold processing.
February 1981 to March 1984	Metallurgical Superintendent, Windarra Nickel Project, Western Mining Corp., Laverton, W.A., Australia. Responsible for hiring new staff and crew to recommission and operate an existing inactive 3000 TPD nickel concentrator. Had final approval of process and plans for gold CIP plant which was under design when I arrived. Supervised, as owner's representative, CIP plant construction, then started up and operated plant in early 1982. Responsible for process design of a gold roaster plant at the same location, through construction, commissioning in early 1983 and operation. Normal tonnage is 1,000 TPD gold ore and 2000 TPD nickel ore. Reported to Resident Manager, Phil Lockyer.
February 1979 to February 1981	Manager of Metallurgy, Homestake Mining Company, Denver, Colorado. Responsible for metallurgical planning and evaluations at the corporate level, including development of flowsheets for potential mines under evaluation, development of a corporate research and development capability in metallurgy, and monitoring of the metallurgical aspects of Homestake joint ventures. Reported to Vice President, Engineering, Langan W. Swent.

January 1977 to February 1979	Staff Metallurgist, Homestake Mining Company, Denver, Colorado. General corporate level metallurgical work, including metallurgical feasibility studies for potential mines, development of pollution-control processes and flowsheets at existing operations, assistance to operating mills in evaluating and improving metallurgy, and general metallurgical troubleshooting. Reported to Vice President, Engineering, Langan W. Swent.
July 1973 to January 1977	Senior Metallurgist, Homestake Copper Company, Calumet, Michigan. Responsible for all metallurgical and environmental planning and works for this major exploration/development venture, including construction and operation of a 750 TPD concentrator for a limited-life, small-scale operation. Reported to Manager, O. E. Anderson (to May 1976), John Parker (to January 1977).
October 1972 to July 1973	Metallurgist, Lakeshore Project, Hecla Mining Company, Casa Grande, Arizona. (Copper mine, mill and chemical smelter.) With senior process engineer, responsible for designing test programs and analyzing operating data for three pilot plants: roast-leach-electrowinning plant, oxide leach and precipitation plant, and concentrator. Reported to Manager of Metallurgy, Nick Tschischow.
July 1971 to October 1972	Mill Superintendent, Mayflower Mine, Hecla Mining Company, Heber City, Utah. Responsible for the operation of 450 ton per day flotation mill producing lead-copper-precious metal, zinc, and pyrite-gold concentrates. Reported to Manager of Mills, J. G. Craig.
February 1969 July 1971	Metallurgist, Hecla Mining Company, Wallace, Idaho. Responsible for metallurgical operation of Hecla's three operating mills in the Coeur d'Alene area. Reported to Manager of Mills, J. G. Craig.
September 1967 to January 1969	Working on Masters Degree at MTU under Dr. Wil Freyberger. Thesis topic "Flotation of Chalcocite with Xanthate and Xanthate Esters".
May 1966 to September 1967	Field Engineer, American Cyanamid Company, Salt Lake City, Utah. Sales and customer service for milling chemicals including lab testing, mill testing and trouble-shooting. Reported to District Manager, J. A. McAllister in Tucson.
July 1964 to May 1966	Assistant Field Engineer, American Cyanamid Company, Tucson, Arizona. Similar work to above. Worked under Field Engineer, J. A. McAllister.
December 1963 to July 1964	Research laboratory, American Cyanamid Company, Stamford, Connecticut. Lab work primarily involving flotation studies
December 1961 to December 1963	U. S. Army, Lieutenant in Engineer Battalion.

PERSONAL

Born 1939 - Salina, Kansas, U.S.A.
U. S. Citizen
Languages - English, Limited Spanish

PAPERS AND PUBLICATIONS

"Recovery of Gold and Silver from Leach Solutions" Heap and Dump Leaching Newsletter, April 1985.

"Innovations and Techniques in the Carbon-in-Pulp Process in Western Australia", with Bruno Sceresini. Presented at the First International SME-AIME Fall Meeting, Honolulu, September 1982.

"Homestake's Bulldog Mountain CIP Silver Plant" and "New Developments at Homestake's Bulldog Mountain CIP Silver Plant" published in "Gold, Silver, Uranium and Coal: Geology, Mining, Extraction and Environment, 1983, Ed. M. C. Fuerstenau and B. P. Palmer, AIME, New York.

"Gold Metallurgy", McGraw-Hill Encyclopedia of Science and Technology, 5th Edition, 1980.

"Destruction of Cyanide in Homestake Gold Mill Effluent", with Larry Trautman. Presented at Northwest Mining Convention, Spokane, 1979.

"Homestake Copper Company - an Update" with Ross Grunwald, Chief Geologist, Homestake Copper Company. Presented at AIME U.P. Section Spring Meeting, 1976.

"Recovery of Copper from White Pine Reverberatory Furnace Slag" with Duane M. Thayer, Asst. Professor Michigan Tech University. Presented at the 1969 AIME Fall Meeting, Salt Lake City, Utah.

When recorded, please return
to: A.F Budge Mining Limited
4301 North 75th Street
Suite 101
Scottsdale, Az 85251

AFF LABOR (AL)

AFFIDAVIT OF PERFORMANCE OF ANNUAL LABOR

89 590444

STATE OF ARIZONA)
) ss.
County of Maricopa)

RONALD R. SHORT, being duly sworn, upon his oath states as follows:

1. He is a citizen of the United States, more than eighteen (18) years of age, and is personally acquainted with the 460 unpatented lode and placer mining claims situated in the Vulture Mining District, Maricopa County, Arizona, the names of which are indicated in Exhibit "A" attached hereto (the "Claims"), which exhibit also includes the location of said claims together with the serial number assigned to the Claims by the Arizona State Office of the Bureau of Land Management and/or the Recordation Number recorded in the offical records of Maricopa County, Arizona.

2. This Affidavit is made for, on behalf of, and at the direction of A.F. BUDGE (MINING) LIMITED, a Nevada corporation, the Lessee of the Claims from V.M.P., Inc., an Arizona corporation, whose address is c/o Larry W. Beal, 1414 E. Purdue, Phoenix, Arizona, 85020, the owner of such Claims.

3. The location notices of the Claims are posted within Sections 24, 25, 26, 27, 34, 35 and 36, Township 6 North, Range 6 West; Sections 16, 17, 19, 20, 21, 28, 29, 30, 31 and 32, Township 6 North, Range 5 West; Sections 1, 2 and 12, Township 5 North, Range 5 West, G&SR Meridian, Maricopa County, Arizona, and the Claims form a contiguous block.

RECORDED IN OFFICIAL RECORDS
OF MARICOPA COUNTY, ARIZONA
DEC 26 '89 -11 00
HELEN PURCELL, County Recorder
FEE 23 PGS 13
1

4. Between the 1st day of September, 1988, and the 1st day of September, 1989, not less than FIFTY THOUSAND DOLLARS ($50,000.00) work of work and improvements were done and performed upon or for the benefit of each of the Claims, not including the location work of the Claims.

5. Such work and improvements consisted of a program of drilling and sampling and supervision thereof.

(a) The drilling program was conducted by SDS Drilling Company of Reno, Nevada. A total of 1,700 feet were drilled and core recovered from 2 holes, at a cost of $45,077. The drilling program was supervised by James R. Bosco, a consulting geologist from Marquette, Michigan. Professional fees paid to Mr. Bosco for this supervision amounted to $6,720.

6. All of the above work and improvements were performed by or at the expense of A.F. BUDGE (MINING) LIMITED, the Lessee of the Claims from the owner thereof for the purpose of complying with the laws of the United States pertaining to assessment or annual work.

Ronald Short
Ronald R. Short

Subscribed and sworn before me this 19th day of December, 1989, by Ronald R. Short

Carole A. O'Brien
Notary Public

OFFICIAL SEAL
CAROLE A. O'BRIEN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires April 14, 1991

89 590444

Unpatented Claim Name	Lode Number	Mining BLM Number Serial Number AMC	Claims Docket Book	Page
Vulture	# 1	246347	15828	79-80
	# 2	246348	15828	81-82
	# 3	246349	15828	83-84
	# 4	246350	15828	85-86
	# 5	246351	15828	87-88
	# 6	246352	15828	89-90
	# 7	246353	15828	91-92
	# 8	246354	15828	93-94
	# 9	246355	15828	95-96
	# 10	246356	15828	97-98
	# 11	246357	15828	99-100
	# 12	246358	15828	101-102
	# 13	246359	15828	103-104
	# 14	246360	15828	105-106
	# 15	246361	15828	107-108
	# 16	246362	15828	109-110
	# 17	246363	15828	111-112
	# 18	246364	15828	113-114
	# 19	246365	15828	115-116
	# 20	246366	15828	117-118
	# 25	246367	15828	119-120
	# 26	246368	15828	121-122
	# 27	246369	15828	123-124
	# 28	246370	15828	125-126
	# 29	246371	15828	127-128
	# 30	246372	15828	129-130
	# 31	246373	15828	131-132
	# 32	246374	15828	133-134
	# 33	246375	15828	135-136
	# 34	246376	15828	137-138
	# 35	246377	15828	139-140
	# 36	246378	15828	141-142
	# 37	246379	15828	143-144
	# 38	246380	15828	145-146
	# 39	246381	15828	147-148
	# 40	246382	15828	149-150
	# 41	246383	15828	151-152
	# 42	246384	15828	153-154
	# 43	246385	15828	155-156
	# 44	246386	15828	157-158
	# 45	246387	15828	159-160

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 46	246388	15828	161-162
	# 47	246389	15828	163-164
	# 48	246390	15828	165-166
	# 49	246391	15828	167-168
	# 50	246392	15828	169-170
	# 51	246393	15828	171-172
	# 52	246394	15828	173-174
	# 53	246395	15828	175-176
	# 54	246396	15828	177-178
	# 55	246397	15828	179-180
	# 56	246398	15828	181-182
	# 57	246399	15828	183-184
	# 58	246400	15828	185-186
	# 59	246401	15828	187-188
	# 60	246402	15828	189-190
	# 61	246403	15828	191-192
	# 62	246404	15828	193-194
	# 63	246405	15828	195-196
	# 64	246406	15828	197-198
	# 65	246407	15828	199-200
	# 66	246408	15828	201-202
	# 67	246409	15828	203-204
	# 68	246410	15828	205-206
	# 69	246411	15828	207-208
	# 70	246412	15828	209-210
	# 71	246413	15828	211-212
	# 72	246414	15828	213-214
	# 73	246415	15828	215-216
	# 74	246416	15828	217-218
	# 75	246417	15828	219-220
	# 76	246418	15828	221-222
	# 77	246419	15828	223-224
	# 78	246420	15828	225-226
	# 79	246421	15828	227-228
	# 80	246422	15828	229-230
	# 81	246423	15828	231-232
	# 81A	246528	15828	233-234
	# 82	246424	15828	235-236
	# 83	246425	15828	237-238
	# 84	246426	15828	239-240
	# 85	246427	15828	241-242
	# 86	246428	15828	243-244
	# 87	246429	15828	245-246
	# 88	246430	15828	247-248
	# 89	246431	15828	249-250
	# 90A	246529	15828	251-252

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 91	246432	15828	253-254
	# 92	246433	15828	255-256
	# 93	246434	15828	257-258
	# 94	246435	15828	259-260
	# 95	246436	15828	261-262
	# 96	246437	15828	263-264
	# 97	246438	15828	265-266
	# 98	246439	15828	267-268
	# 99	246440	15828	269-270
	# 100	246441	15828	271-272
	# 101	246442	15828	273-274
	# 102	246443	15828	275-276
	# 103	246444	15828	277-278
	# 104	246445	15828	279-280
	# 105	246446	15828	281-282
	# 106	246447	15828	283-284
	# 107	246448	15828	285-286
	# 108	246449	15828	287-288
	# 109	246450	15828	289-290
	# 110	246451	15828	291-292
	# 111	246452	15828	293-294
	# 112	246453	15828	295-296
	# 113	246454	15828	297-298
	# 114	246455	15828	301-302
	# 115	246456	15828	299-300
	# 116	246457	15828	303-304
	# 117	246458	15828	305-306
	# 118	246459	15828	307-308
	# 119	246460	15828	309-310
	# 120	246461	15828	311-312
	# 121	246462	15828	313-314
	# 122	246463	15828	315-316
	# 123	246464	15828	317-318
	# 124	246465	15828	319-320
	# 125	246466	15828	321-322
	# 126	246467	15828	323-324
	# 127	246468	15828	325-326
	# 128	246469	15828	327-328
	# 129	246470	15828	329-330
	# 130	246471	15828	331-332
	# 131	246472	15828	333-334
	# 132	246473	15828	335-336
	# 133	246474	15828	337-338
	# 134	246475	15828	339-340
	# 135	246476	15828	341-342
	# 136	246477	15828	343-344
	# 137	246478	15828	345-346
	# 138	246479	15828	347-348

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 139	246480	15828	349-350
	# 140	246481	15828	351-352
	# 141	246482	15828	353-354
	# 142	246483	15828	355-356
	# 143	246484	15828	357-358
	# 144	246485	15828	359-360
	# 145	246486	15828	361-362
	# 146	246487	15828	363-364
	# 147	246488	15828	365-366
	# 148	246489	15828	367-368
	# 149	246490	15828	369-370
	# 150	246491	15828	371-372
	# 151	246492	15828	373-374
	# 152	246493	15828	375-376
	# 153	246494	15828	377-378
	# 154	246495	15828	379-380
	# 155	246496	15828	381-382
	# 156	246497	15828	383-384
	# 157	246498	15828	385-386
	# 158	246499	15828	387-388
	# 159	246500	15828	389-390
	# 160	246501	15828	391-392
	# 161	246502	15828	393-394
	# 162	246503	15828	395-396
	# 163	246504	15828	397-398
	# 164	246505	15828	399-400
	# 165	246506	15828	401-402
	# 166	246507	15828	403-404
	# 167	246508	15828	405-406
	# 168	246509	15828	407-408
	# 169	246510	15828	409-410
	# 170	246511	15828	411-412
	# 171	246512	15828	413-414
	# 172	246513	15828	415-416
	# 173	246514	15828	417-418
	# 174	246515	15828	419-420
Desert	# 1A	246524	15828	475-476
	# 2	246196	15828	477-478
	# 3	246197	15828	479-480
	# 4	246198	15828	481-482
	# 5A	246525	15828	483-484
	# 6	246199	15828	485-486
	# 7	246200	15828	487-488

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 8A	246526	15828	489-490
	# 9A	246527	15828	491-492
	# 10	246201	15828	493-494
	# 11	246202	15828	495-496
	# 12	246203	15828	497-498
	# 13	246204	15828	499-500
	# 14	246205	15828	501-502
	# 15	246206	15828	503-504
	# 16	246207	15828	505-506
	# 17	246208	15828	507-508
	# 18	246209	15828	509-510
	# 19	246210	15828	511-512
	# 20	246211	15828	513-514
	# 21	246212	15828	515-516
	# 22	246213	15828	517-518
	# 23	246214	15828	519-520
	# 24	246215	15828	521-522
	# 25	246216	15828	523-524
	# 26	246217	15828	525-526
	# 27	246218	15828	527-528
	# 28	246219	15828	529-530
	# 29	246220	15828	531-532
	# 30	246221	15828	533-534
	# 31	246222	15828	535-536
	# 32	246223	15828	537-538
	# 33	246224	15828	539-540
	# 34	246225	15828	541-542
	# 35	246226	15828	543-544
	# 36	246227	15828	545-546
	# 37	246228	15828	547-548
	# 38	246229	15828	549-550
	# 39	246230	15828	551-552
	# 40	246231	15828	553-554
	# 41	246232	15828	555-556
	# 42	246233	15828	557-558
	# 43	246234	15828	559-560
	# 44	246235	15828	561-562
	# 45	246236	15828	563-564
	# 46	246237	15828	565-566
	# 47	246238	15828	567-568
	# 48	246239	15828	569-570
	# 49	246240	15828	571-572
	# 50	246241	15828	573-574
	# 51	246242	15828	575-576

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 52	246243	15828	577-578
	# 53	246244	15828	579-580
	# 54	246245	15828	581-582
	# 55	246246	15828	583-584
	# 56	246247	15828	585-586
	# 57	246248	15828	587-588
	# 58	246249	15828	589-590
	# 59	246250	15828	591-592
	# 60	246251	15828	593-594
	# 61	246252	15828	595-596
	# 62	246253	15828	597-598
	# 63	246254	15828	599-600
	# 64	246255	15828	601-602
	# 65	246256	15828	603-604
	# 66	246257	15828	605-606
	# 67	246258	15828	607-608
	# 68	246259	15828	609-610
	# 69	246260	15828	611-612
	# 70	246261	15828	613-614
	# 71	246262	15828	615-616
	# 72	246263	15828	617-618
	# 73	246264	15828	619-620
	# 74	246265	15828	621-622
	# 75	246266	15828	623-624
	# 76	246267	15828	625-626
	# 77	246268	15828	627-628
	# 78	246269	15828	629-630
	# 79	246270	15828	631-632
	# 80	246271	15828	633-634
	# 81	246272	15828	635-636
	# 82	246273	15828	637-638
	# 83	246274	15828	639-640
	# 84	246275	15828	641-642
	# 85	246276	15828	643-644
	# 86	246277	15828	645-646
	# 87	246278	15828	647-648
	# 88	246279	15828	649-650
	# 89	246280	15828	651-652
	# 90	246281	15828	653-654
	# 91	246282	15828	655-656
	# 92	246283	15828	657-658
	# 93	246284	15828	659-660
	# 94	246285	15828	661-662
	# 95	246286	15828	663-664
	# 96	246287	15828	665-666
	# 97	246288	15828	667-668
	# 98	246289	15828	669-670
	# 99	246290	15828	671-672

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 100	246291	15828	673-674
	# 101	246292	15828	675-676
	# 102	246293	15828	677-678
	# 103	246294	15828	679-680
	# 104	246295	15828	681-682
	# 105	246296	15828	683-684
	# 106	246297	15828	685-686
	# 107	246298	15828	687-688
	# 108	246299	15828	689-690
	# 109	246300	15828	691-692
	# 110	246301	15828	693-694
	# 111	246302	15828	695-696
	# 112	246303	15828	697-698
	# 113	246304	15828	699-700
	# 114	246305	15828	701-702
	# 115	246306	15828	703-704
	# 116	246307	15828	705-706
	# 117	246308	15828	707-708
	# 118	246309	15828	709-710
	# 119	246310	15828	711-712
	# 120	246311	15828	713-714
	# 121	246312	15828	715-716
	# 122	246313	15828	717-718
	# 123	246314	15828	719-720
	# 124	246315	15828	721-722
	# 125	246316	15828	723-724
	# 126	246317	15828	725-726
	# 127	246318	15828	727-728
	# 128	246319	15828	729-730
	# 129	246320	15828	731-732
	# 130	246321	15828	733-734
	# 131	246322	15828	735-736
	# 132	246323	15828	737-738
	# 133	246324	15828	739-740
	# 134	246325	15828	741-742
	# 135	246326	15828	743-744
	# 136	246327	15828	745-746
	# 137	246328	15828	747-748
	# 138	246329	15828	749-750
	# 139	246330	15828	751-752
	# 140	246331	15828	753-754
	# 141	246332	15828	755-756
	# 142	246333	15828	757-758
	# 143	246334	15828	759-760
	# 144	246335	15828	761-762
	# 145	246336	15828	763-764

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 146	246337	15828	765-766
	# 147	246338	15828	767-768
	# 148	246339	15828	769-770
	# 149	246340	15828	771-772
	# 150	246341	15828	773-774
	# 151	246342	15828	775-776
	# 152	246343	15828	777-778
	# 153	246344	15828	779-780
	# 154	246345	15828	781-782
	# 155	246346	15828	783-784
B-lan	1	246173	15952	600-601
	2	246174	15952	602-603
	3	246175	15952	604-605
	4	246176	15952	606-607
	5	246177	15952	608-609
	6	246178	15952	610-611
	7	246179	15952	612-613
	8	246180	15952	614-615
	9	246181	15952	616-617
	10	246182	15952	618-619
	11	246183	15952	620-621
	12	246184	15952	622-623
	13	246185	15952	624-625
	14	246186	15952	626-627
	15	246187	15952	628-629
	16	246188	15952	630-631
	17	246189	15952	632-633
	18	246190	15952	634-635
	19	246191	15952	636-637
	20	246192	15952	638-639
	21	246193	15952	640-641
	22	246194	16260	516-517
	23	246195	16260	514-515
Zen	1	246152	15952	544-545
	2	246153	15952	546-547
	3	246154	15952	548-549
	4	246155	15952	550-551
	5	246156	15952	552-553
	6	246157	15952	554-555
	7	246158	15952	556-557

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Zen	8	246159	15952	558-559
	9	246160	15952	560-561
	10	246161	15952	562-563
	11	246162	15952	564-565
	12	246163	15952	566-567
	13	246164	15952	568-569
	14	246165	15952	570-571
	15	246166	15952	572-573
	16	246167	15952	574-575
	17	246168	15952	576-577
	18	246169	15952	578-579
	19	246170	15952	580-581
	20	246171	15952	582-583
	21	246172	15952	584-585
A-lan	1	246518	15952	451-452
	2	167035	15952	453
	3	167036	15952	455
	4	167037	15952	457
	5	167038	15952	459
	6	170729	16025	518
	7	170730	16025	520
	8	246519	15952	461-462
	9	167040	15952	463
	10	167041	15952	465
	11	167042	15952	467
	12	167043	15952	469
	13	170731	16025	522
	14	170732	16025	524
	15	246520	15952	471-472
	16	167045	15952	473
	17	167046	15952	475
	18	167047	15952	477
	19	167048	15952	479
	20	170733	16025	526
	21	170734	16025	528
	22	246521	15952	481-482
	23	167050	15952	483
	24	167051	15952	485
	25	167052	15952	487
	26	167053	15952	489
	27	170735	16025	530
	28	170736	16025	532
	29	246522	15952	491-492

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
A-lan	30	167055	15952	493
	31	167056	15952	495
	32	167057	15952	497
	33	167058	15952	499
	34	170737	16025	534
	35	170738	16025	536
	36	246523	15952	501-502
	37	167060	15952	503
	38	167061	15952	505
	39	167062	15952	507
	40	167063	15952	509
	41	170739	16025	538
	42	170740	16025	540
Vulture Annex # 1		246516		
Vulture Annex # 2		246517		

Placer Mining Claims				
V.M.P.	1	77018	11693	739
	2	77019	11693	740
	3	77020	11693	741
	4	77021	11693	742
	5	77022	11693	743
	6	77023	11693	744
	7	77024	11693	745
	8	77025	11693	746
	9	77026	11693	747
	10	77027	11693	748
	11	77028	11693	749
	12	77029	11693	750
	13	77030	11693	751
	18	77031	11693	752
	19	77032	11693	753
	20	77033	11693	754
	21	77034	11693	755
	22	77035	11693	756
	23	77036	11693	757
	24	77037	11693	758

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
V.M.P.	25	77038	11693	759
	26	77039	11693	760
	27	77040	11693	761
	28	77041	11693	762
	29	77042	11693	763
	30	77043	11693	764
	31	77044	11693	765
	32	77045	11693	766
	33	77046	11693	767
	34	77047	11693	772
	35	77048	11693	773
	36	77049	11693	774
	37	77050	11693	775
	38	77051	11693	776
J.S.	1	71781	7685	387
	2	71782	7685	388
	3	71783	7685	389
	4	71784	7685	390
	5	71785	7685	391
	6	71786	7685	392
	7	71787	7685	393
	8	71788	7685	394
	9	71789	7685	395
	10	71790	7685	396
	11	71791	7685	397
	12	71792	7685	398
	13	71793	7685	399
	14	71794	7685	400
	15	71795	7685	401
	16	71796	7685	402

Milton W. Hood
P. O. Box 20865
Wickenburg, AZ 85358

May 22, 1984

Mr. Ben Dickerson III
DMEA Ltd.
4203 N. Brown Ave., Suite F
Scottsdale, AZ 85251

Dear Ben:

The Option Period for the Vulture Property is approaching the last couple of weeks of life. After reviewing various data generated during this period, I would like to offer a few observations and recommendations.

1. Tonnages of the stamp mill tails are about half of that reported from "prior examinations". The grade also appears to be lower; reported grade was 0.045 opt with no specified cutoff compared to our grade of 0.038 opt with a cutoff of 0.020 opt.

2. Work done to date by Dawson Labs indicate the tails can be heap leached with NaCN after pelletizing with an expected recovery of about 70.0% of the contained gold with reasonable levels of reagent consumption.

3. Ore reserve estimates for the remaining ore along the main zones that could be mined by open pit methods with acceptable strip ratios, say 4.0:1.0, seems to have been wildly optomistic as seen in light of recent drill results. A more reasonable estimate might be in the range of 100,000-200,000 tons at a grade of 0.075 opt.

4. With the above figures in hand, the recoverable gold in sight at this stage of the program might be expected to be on the order of 10,500 ounces compared to about 92,000 ounces from earlier reports. This would call for a drastic reduction of plant size from that possible under the larger tonnages.

Recommendations

The following are things that could be done to move the project forward if it is desired to go to the next phase.

1. Submit samples of drill cuttings from the high grade intercepts to ASARCO and others for testing as flux material. This should cost little more than shipping costs. Results of these inquiries would indicate the feasibility of mining some of this material and shipping to a smelter for an early cash flow. This could be prior to start of construction of leach facilities.

Recommendations

2. Submit drill cuttings from intercepts assaying above 0.060 opt to Dawson for leach testing to see if the material will leach and what to expect by way of reagent consumption and recovery of contained gold.

3. Send Dawson a new suite of tails samples from the drill rejects for mixing with the ore samples delivered earlier and the cuttings from the drill holes mentioned in No 2 above. The second set of tails samples would be selected on a 0.020 opt cutoff. Two sets of pellets would be made. One would combine tails and the pit ore samples and the second set would combine the tails and cuttings from the drill holes.

4. Detailed geologic mapping of pits and surface features in the areas of interest. The results of this mapping would then be correlated with existing assay infomation as a basis for predicting the location of additional ore.

If you find merit in any of the above suggestions, the next step would be development of schedules and budgets for their implementation.

Sincerely,

M. W. Hood

Milton W. Hood

RECEIVED MAY 3 0 1984

Milton W. Hood
Tara Minerals
P. O. Box 20865
Wickenburg, AZ 85358

May 29, 1984

Mr. R. A. Moon
ASARCO
P. O. Box 98
Hayden, AZ 85235

Dear Mr. Moon:

The enclosed samples are drill cuttings from the Vulture Mine near Wickenburg, AZ. A split of these same samples have been assayed for gold and silver by Skyline Labs of Tucson and reported quite good values with averages of over 1.00 opt Au. I discussed the possibility of shipping some of this material as direct smelting ore with a possible flux credit, if suitable.

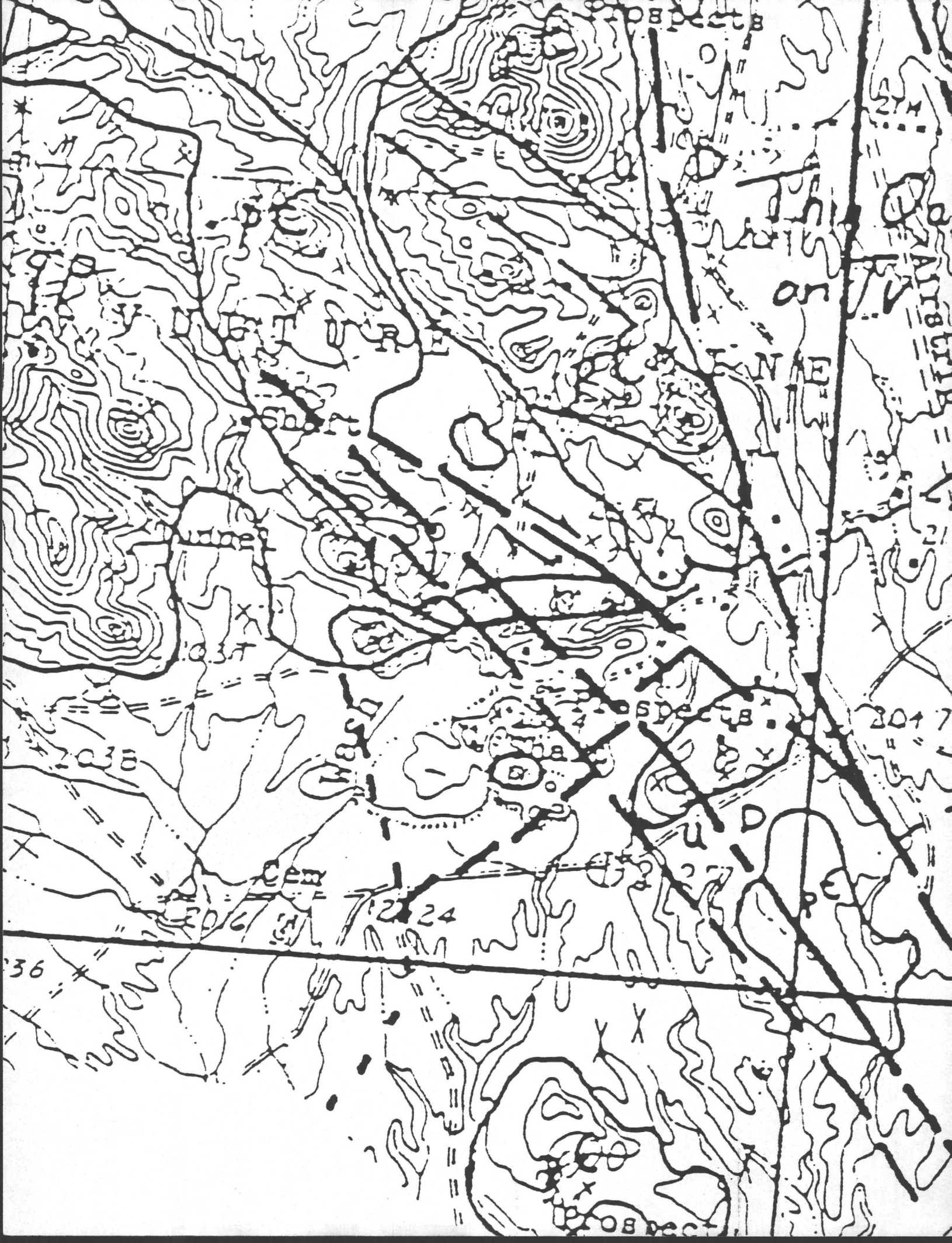
Tony suggested that I send the samples to you for analysis and send the results to him.

If any further information is required, please contact me at the above address or by phone at 1-684-7836.

Sincerely,

Milton W. Hood

cc; Ben Dickerson III



The Fate of Cyanide in Soils

Terry D. Chatwin
Western Research Institute
P.O. Box 3395
Laramie, WY 82071
(307) 721-2276
Fax (307) 721-2345

INTRODUCTION

With the advent of cyanide heap leach technology for the processing of low-grade gold ores, and the increase in the value of gold, there has been a rapid increase in the use of dilute cyanide solutions. This expanded use of cyanide plus its recognized toxicity has raised concerns relating to cyanide contamination of ground water. The assessment of the cyanide attenuation and degradation characteristics of soil is important because it represents the major potential mitigation for cyanide ground water contamination. While adsorption, hydrolysis, volatilization, oxidation, and biological processes affect the migration and degradation of cyanide spills, no definitive investigation has previously quantified these mechanisms adequately to predict the fate of cyanide in soils.

Resource Recovery and Conservation Consultants (R2C2) initiated this work in order to develop quantitative information on cyanide reactions with soil and the various mechanisms that attenuate cyanide concentrations in the environment. Such data are necessary in order to devise the most appropriate regulatory scheme for protecting human health and the environment from potential impacts of cyanide from mineral processing. These mechanisms include volatilization, chelation (complexation), precipitation, adsorption, oxidation to cyanate, and biodegradation.

A second objective of the program was to relate these various mechanisms to the appropriate soil parameters so that comparisons can be made regarding the effectiveness of different environments in the attenuation/degradation of cyanide. The validation of a true predictive model requires rigorous field testing. A modeling approach was, therefore, selected to use site-specific, empirically-derived data to assess the capacity of specific soils to attenuate and degrade free and complexed cyanides.

The experimental approach consisted of a number of bench-scale tests including stirred reactor vessels and a variety of columns along with concurrent work on the development of a numerical model. The bench-scale testing investigated the effects of various soil types and pure minerals on cyanide concentration. Tests were conducted by R2C2 personnel, by the University of Nevada at Reno under the direction of Dr. James Hendrix, and by the University of Utah under the direction of Dr. Milton Wadsworth.

Initially, we decided that one cyanide removal mechanism, biodegradation, was beyond the scope of this study, but testing suggested that biodegradation did occur in some of the long-term unsaturated column tests. Therefore, limited biodegradation testing was performed to determine its timing and significance in these test soils.

RESULTS AND DISCUSSION

Cyanide undergoes a variety of reactions in the environment. Soils contain silicate, aluminosilicate, clay, sulfide, carbonate, and metal oxides (Fe and Mn) mineral phases in addition to water, vapor, and organic matter, which are potential reactants with solutions in soil. The solid components affect the pH control, buffering capacity, or redox potential of the solution and cause ion exchange, adsorption, or chemical reaction, such as precipitation of an insoluble species. These reaction types were investigated to quantify their effect on hydrogen cyanide (HCN) released to the environment.

CYANIDE VOLATILIZATION FROM SOILS

The effect of pH on the formation of volatile HCN is well known. We assessed the effectiveness of soil to lower pH in sodium cyanide solution to convert cyanide ion to cyanide and evolve HCN gas. The pH of the soils tested ranged from 4.5 to 8.9, which is ample to volatilize HCN. Soil-solution and soil-cyanide interactions, such as buffering pH and complexing cyanide, complicate the pH distribution. Therefore, the ratio of cyanide in solution to cyanide in gas was calculated for each of the soils. The partition coefficient is:

K_{aw} = (μg HCN/mL air)/(μg HCN/mL solution).

Migration rates for cyanide (soln) are much slower than cyanide (gas) in soil. Gas-phase diffusion is generally about 10^4 times faster than liquid-phase diffusion. At K_{aw} = 1.0, cyanide moves almost entirely via gas-phase diffusion through soil pores. At $K_{aw} \sim 10^{-6}$, cyanide moves via liquid-phase diffusion.

Partition coefficients calculated for the soils in this study range from 2.2×10^{-3} to 1.3×10^{-2}, with an average of 6×10^{-3}, suggesting that cyanide migrated as a plume through unsaturated soil primarily via gas-phase diffusion.

CHELATION/PRECIPITATION OF CYANIDE IN SOILS

Numerous saturated columns were run with different soils to examine chelation and

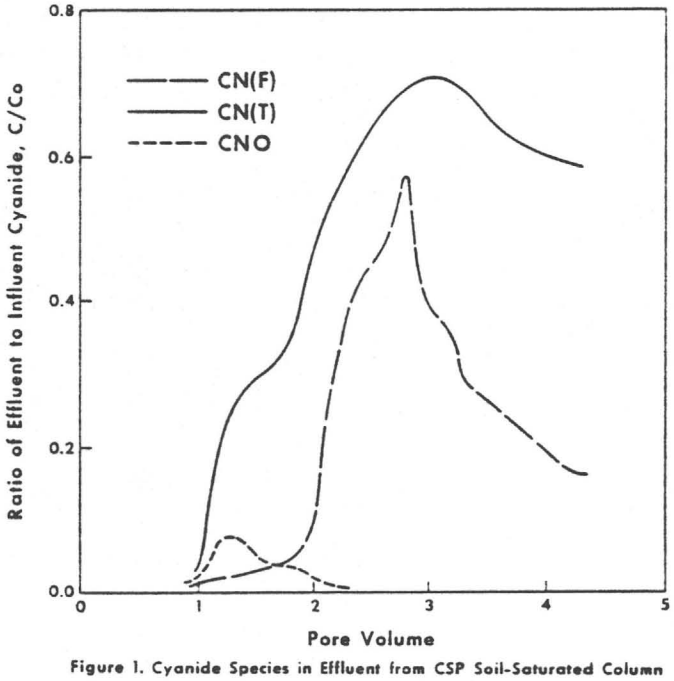


Figure 1. Cyanide Species in Effluent from CSP Soil-Saturated Column

precipitation. A representative test suggests that chelation occurs in soils with available Fe, Cu, and Ni. The column effluents contained significant amounts of the less toxic species, cyanate.

After the column test, analysis of the soil determined the total amount of cyanide retained. In the effluent, 38% of the initial cyanide influent passed as free cyanide. An additional 12% passed as complexed metal-cyanide. The total cyanide left in the soil was 58%. These values total 113% of the initial free cyanide influent charged to column.

These results are important to assess potential impacts of cyanide released in the environment. First, a portion of the free cyanide will be chelated to various metal-cyanide complexes. Second, the weakly associated complexes (Ni and Cu) pass out of the columns before more strongly associated Fe complexes suggesting that migration and subsequent decay can enhance migration of free cyanide. Third, the peaks of weakly associated complexes tail off earlier than peaks of the iron complex suggesting that free Fe is more concentrated than free Cu and Ni. Also, the coincidence of Cu and cyanate peaks in the effluent implies that Cu catalyses this oxidation.

ADSORPTION OF CYANIDE IN SOILS

In 1987, Chatwin and Trepanowski found that the magnitude of cyanide adsorption in subsoils correlates to its organic carbon content because cyanide adsorbs on organic matter, is bound, and oxidized to cyanate.

For western U.S. subsoils, an average of ~0.5 mg free cyanide was adsorbed per gram of contained organic carbon. Cyanide adsorbed on organic carbon in soil was partially oxidized to cyanate even under saturated conditions. Others agree that oxidation was catalyzed by Cu.

Assuming a soil density of 100 lb/ft^3, the average subsoil contained 0.6 lb organic carbon/ft^3 soil. At an adsorption value of 0.5 mg cyanide/g carbon and if 10% of the organic carbon surfaces are available, the organic carbon can remove 1.2 x 10^{-4} lb/ft^3. At 40% porosity, one pore volume of solution per ft^3 weighs about 25 lb. Hence, the organic carbon in the soil can adsorb ~1.2 ppm cyanide from a 130 ppm solution as it travels 1 ft through the soil (~1% cyanide removal/ft).

We examined adsorptive properties of various pure clay and feldspar minerals in a series of stirred reactor tests. Orthoclase (K-feldspar), plagioclase (Ca-feldspar), kaolinite, and smectite adsorb cyanide, which is oxidized to cyanate by surface-active components or sites. This mechanism depends on the mineralogy of the soil and the solution chemistry as well. Metals (Cu and Ni) that form weak-acid-dissociable cyanide complexes enhance the adsorption process. The cyanide can then be oxidized using feldspar and clay mineral surfaces, similar to cyanide oxidation on organic surfaces.

These data suggest that feldspars and kaolinite may remove as much as 0.05 mg cyanide/g mineral. A typical arid soil with 20% feldspars was used to estimate the impact of this mechanism on cyanide removal. The soil, compacted to 100 lb/ft^3, has a porosity of about 40%. If one pore volume of 130 ppm cyanide solution passing through a foot of soil interacts with 10% of the feldspar surfaces, the soil will remove up to 3% of the free cyanide per foot of soil.

Figure 2 shows the column tests for three western U.S. soils with different feldspar and clay mineral contents.

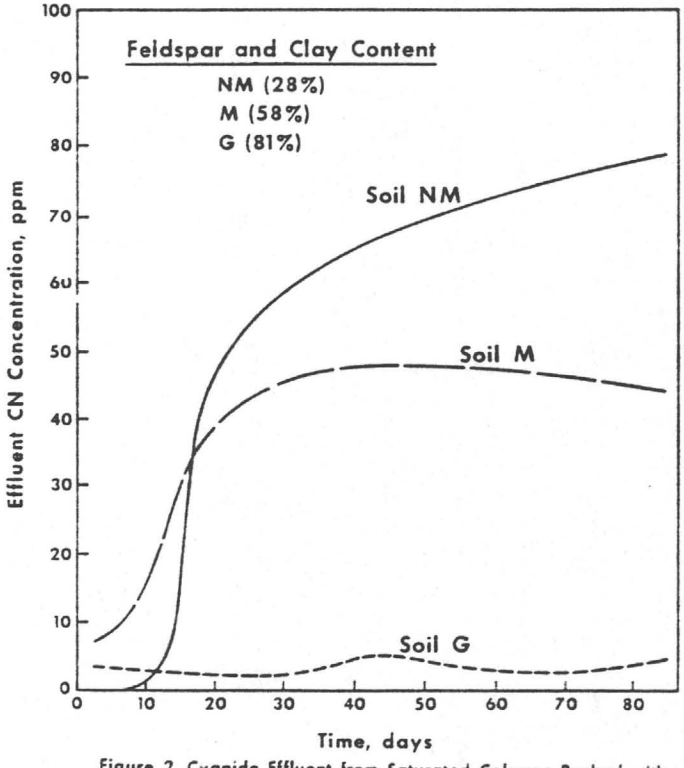


Figure 2. Cyanide Effluent from Saturated Columns Packed with Soils of Different Mineral Content

Adsorption of cyanide by organic carbon and various feldspar and clay minerals on a Mississippian carbonaceous shale was also examined. The shale contained 13.3% organic carbon, 8% feldspars, and 46% clay minerals that include kaolinite, chlorite, illite, smectite, and mixed-layer clays. These are all constituents that degrade or attenuate cyanide.

The stirred tests on this shale show a removal of 0.68 mg cyanide/g shale. This is slightly higher than the capacity of pure organic carbon and suggests that this shale effectively contains cyanide solutions.

Projections from column tests (3-ft hydraulic head) show that 2 ft of compacted shale will attenuate/degrade weak-acid-dissociable cyanide or otherwise contain it such that cyanide is not released over a 10- to 20-year life of the facility. An 8-inch/yr solution penetration was calculated assuming a hydraulic conductivity $\leq 10^{-7}$ cm/s for the compacted shale liner and a 3-ft hydraulic head. Figure 3 shows the retardation of the cyanide in the shale liner. The cyanide front is slightly more than four inches after six pore volumes passed. With an 8-inch/yr solution penetration, it will take 18 years for six pore volumes to pass a 24-inch-thick liner.

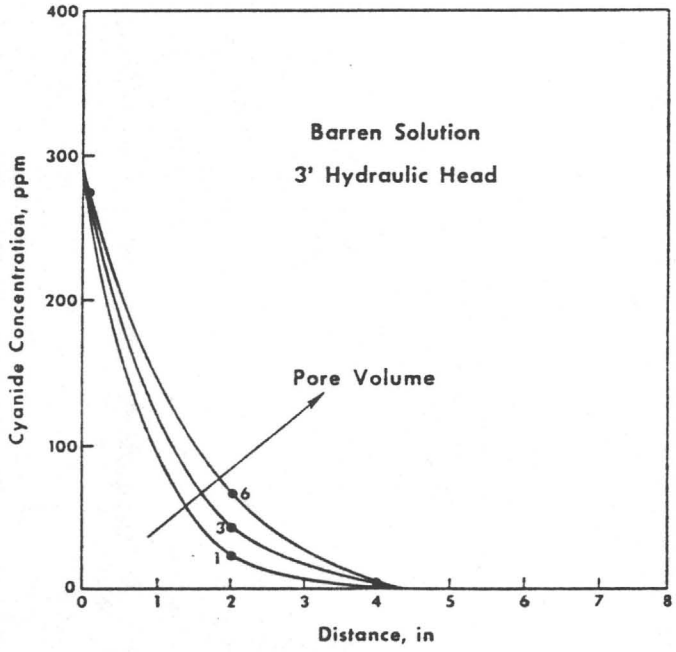


Figure 3. Projected Attenuation/Degradation of WAD Cyanide by Carbonaceous Shale Liner

OXIDATION TO CYANATE

The work of Zhang and Wadsworth on the adsorption of cyanide on clay and feldspar minerals shows that cyanide can be converted to cyanate in the soil on the surface of organic and inorganic materials. This reaction is enhanced by adding Cu and Ni to the solution. The measured oxidation kinetics of these systems is between 1 and 2 x 10^{-4} min^{-1}, and the reactions appear to be first order with respect to cyanide.

COMBINED SOIL ATTENUATION MECHANISMS

The combined effects of volatilization, chelation, adsorption, and oxidation were examined using a large-diameter (20 in.) column filled to 19 inches with soil under unsaturated conditions. Results suggest that cyanide solutions degrade more readily under unsaturated than saturated conditions. In the unsaturated column, most of the cyanide was removed in the first 19 inches of soil. The concentration of the initial solution was reduced to 3% of the free cyanide and 8% of the total cyanide at the end of the test. Approximately 56% of the cyanide added to the unsaturated column was oxidized to cyanate, either by abiotic or bacterial means. This value also includes cyanate retained in the soil column. Considerable HCN was produced in the soil and migrated out of the soil into the head space above. This volatilized HCN is equal to 10% of the cyanide charged to the column. Cyanate formation was much greater than expected in this column based on the mineral and organic matter content of the soil and may be a result of bacterial degradation.

A soil from the column was assayed for bacteria using epifluorescent counting techniques. The resulting cell count was 9 x 10^8 cells/g. This is relatively high for a subsoil that was initially unsaturated and then saturated at length with a cyanide solution, and is higher than expected for a normal B-horizon soil (normally 500 to 1 x 10^4). The elevated numbers of bacteria in the soil column suggest that native soil bacteria have undergone a forced adaptation to the elevated cyanide conditions and developed the ability to either metabolize or transform cyanide.

BIODEGRADATION

Quantification of biodegradation of cyanide in soils is beyond the scope of this study. We hoped that by using air-dried soil, the biological activity would not be a significant factor during the short time of these experiments. However, because the large-diameter column exhibited bacterial degradation of cyanide, a series of column tests was designed by Les Thompson of Gold Field Mining.

The results suggest that during a simulated spill, biological decomposition of cyanides by native soil bacteria is a minor removal mechanism compared to other physical and chemical attenuation reactions. Indigenous bacteria that are allowed to acclimate to the spill do become active after cyanide levels are lowered through other attenuation and removal reactions. Biological influence on the decomposition of cyanide in soil systems is, therefore, a long-term method of cyanide removal compared to volatilization and complexation reactions.

CYANIDE FATE AND MIGRATION MODEL

A solute transport model for cyanide leakage into the unsaturated zone was developed by Simon Lorentz and David McWhorter of Colorado State University, as contracted by R2C2. This model simulates either a leak in a pond liner or heap leach pad. The transport of the cyanide and the

extent of the resulting solute plume is determined to a significant degree by the rate of cyanide loss from the solute to the gas phase, which occurs due to its volatile nature and by the rate of adsorption onto the solid phase. To estimate the extent of solute movement into the unsaturated zone, it is important to balance the mass of cyanide in the liquid, gas, and adsorbed phases.

This mass balance uses site-specific experimentally derived partition coefficients for the solid-liquid phase and the liquid-gas phase. These coefficients are derived from data produced in the test program. An approximate analytical method to describe the mass balance of the cyanide in the unsaturated zone for two cases has been developed: (1) a leak resulting in a tear in a synthetic liner and (2) a uniform seepage through a clay liner.

An example analysis was performed for the line-source case. Soil properties for a typical sandy loam and solute transport properties extracted from the literature were used, and the rate of movement of the solute plume was determined to be extremely slow. The analysis shows that for a continuous leak, it will take 15 years for the plume to reach 20 meters, and after 60 years, the rate of solute discharge into the groundwater is equivalent to the rate of solute discharge at the surface.

As with all numerical simulations, it is important to identify all the model assumptions and its inherent limitations. This model assumes:

- steady-state transport of the cyanide contaminant phase
- inflow is an infinite line source
- relationship between relative hydraulic conductivity and soil moisture potential is exponential
- cyanide concentration in the advancing plume is constant
- soil water content outside the cyanide plume is constant
- cyanide partition coefficient between liquid and gas phases is linear
- cyanide partition coefficient between liquid and adsorbed phases is linear
- relationship between cyanide-front depth and solution inflow volume is linear
- soil is homogeneous and isotropic

CONCLUSIONS AND RECOMMENDATIONS

Cyanide degradation in soil is particularly important to the design of liners for pads and ponds. These designs are becoming more and more stringent because regulatory design criteria ignore the effect of natural cyanide degradation. Thus, where underlying soils have significant cyanide attenuation and degradation capacity, this capacity should be assessed in regulatory decisions.

If the capacity of clay liners to degrade and attenuate cyanide were measured and the natural degradation capacity enhanced, this characteristic may be used to contain cyanide.

There exist situations in which land application of treated cyanide solutions is one of the few cost-effective options available for the disposal of dilute cyanide solutions. Therefore, selection of appropriate sites and underlying soils can minimize the potential for release from this type of treatment-disposable facility.

Cyanide leaks may be located and monitored by measuring HCN in unsaturated soils beneath ponds or pads. The effectiveness of these monitoring systems may be increased by expanding the gas intercept zone with a French drain or geotextile layer.

Carbonaceous material in soil removes 0.5 mg cyanide/g carbon. Feldspar and clay minerals remove 0.05 mg cyanide/g mineral.

Volatilization is a major degradation mechanism for cyanide if pH and soil moisture are low enough for it to be effective. This mechanism removed over 10% of the cyanide added to an unsaturated soil column.

Bacterial degradation of cyanide gave mixed results. One large-diameter column showed significant bacterial development, whereas other similar columns did not.

A numerical model was developed to estimate the migration of cyanide in soils using published data as well as data from this program.

Precipitation is an effective mechanism that removes cyanide by forming insoluble ferro-cyanide precipitates.

Tests and calculations confirmed earlier results that showed unsaturated soils were more effective in removing cyanide than saturated soils.

Arizona Geological Survey
ARIZONA GEOLOGY
(formerly *Fieldnotes*)

Vol. 19, No. 4 | Investigations • Service • Information | Winter 1989

Geology of the Vulture Gold Mine

by Jon E. Spencer, Stephen J. Reynolds, Michael J. Grubensky, John T. Duncan
Arizona Geological Survey
and Don C. White
521 E. Willis St.
Prescott, AZ 86301

The Vulture mine in the Vulture Mountains of west-central Arizona is one of Arizona's largest historic gold mines. The mine yielded approximately 340,000 ounces of gold and 260,000 ounces of silver from 1863 to 1942 (White, 1988).

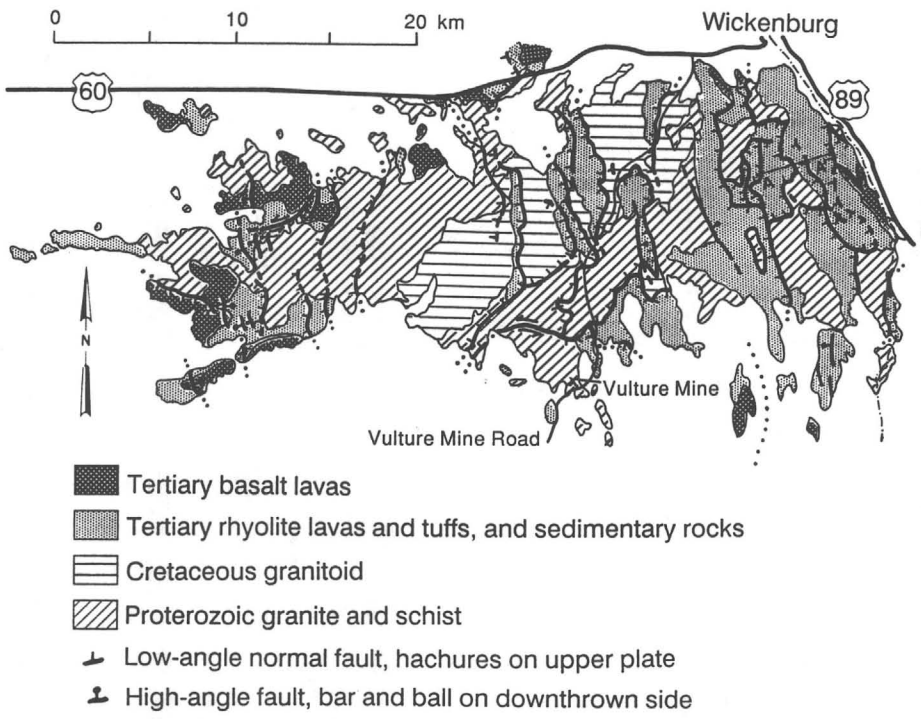


Figure 1. Simplified geologic map and cross section of the Vulture Mountains (from Grubensky and others, 1987; Grubensky and Reynolds, 1988; and M.J. Grubensky, unpublished mapping).

The approximately 1 million tons of ore mined had an average grade of 0.35 ounces per ton of gold and 0.25 ounces per ton of silver. In spite of significant gold production, the deposit has received little geologic study until recently (Reynolds and others, 1988; White, 1988). Recent geologic mapping and laboratory studies by the authors of this article, drilling, and deposit evaluations have led to a much better understanding of the geologic characteristics, age, origin, and evolution of the deposit.

New mapping in the Vulture Mountains was partially supported by the U.S. Geological Survey and Arizona Geological Survey Cooperative Geologic Mapping (COGEOMAP) program. Results of these investigations have implications for exploration strategies in the Vulture mine area and in similar highly extended areas elsewhere in Arizona.

Geologic Setting

Rocks in the Vulture Mountains consist of a variety of Proterozoic metamorphic and igneous rocks, a Cretaceous granite or granodiorite pluton, and lower to middle Miocene volcanic and sedimentary rocks. Large-magnitude, middle Miocene extension, common to most of western Arizona, was accommodated in the Vulture Mountains by movement on numerous listric and planar normal faults. Normal faults and fault blocks were tilted to the east or northeast during extension. Miocene strata now typically dip steeply or are locally overturned to the east or northeast and faults dip gently to the west or southwest (Figure 1).

Geology of the Vulture Mine

Mineralization and alteration at the Vulture mine occurred primarily within and directly adjacent to a north-dipping quartz porphyry dike that extends eastward from a Late Cretaceous pluton and intrudes Proterozoic crystalline rocks (Figures 2 and 3). Moderate to severe alteration of the dike and wall rocks has converted feldspar and mafic miner-

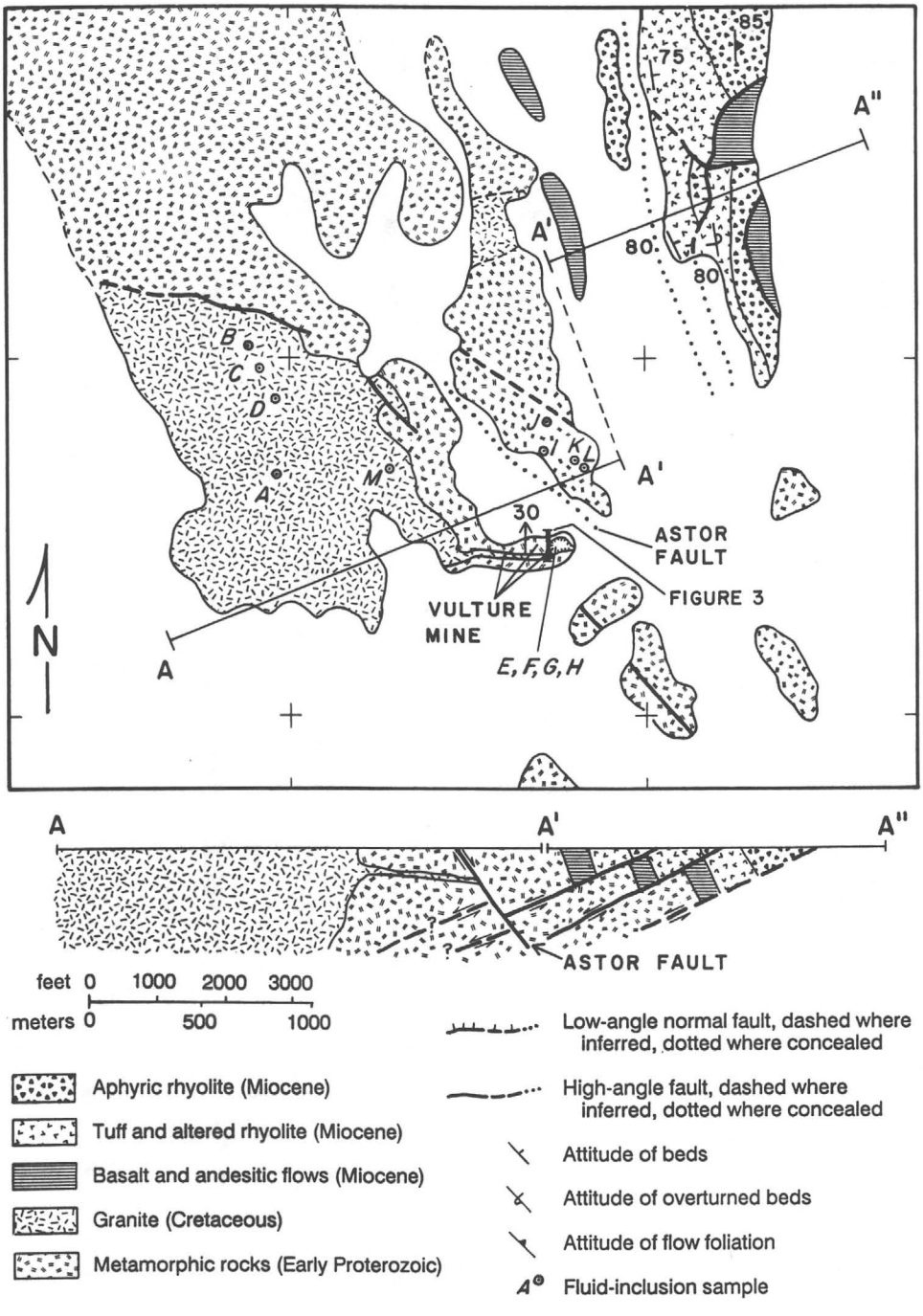


Figure 2. Simplified geologic map of the Vulture mine area and fluid-inclusion sample locations.

als to fine-grained sericite, hematite, and clay minerals. Altered dike rocks commonly consist of quartz "eyes" in a fine-grained matrix of alteration minerals. Gold is concentrated in quartz veins and in silicified and altered rocks within and adjacent to the dike (Figure 3). Gold is present as either native metal or electrum and is associated with pyrite, argentiferous galena, and minor amounts of chalcopyrite and sphalerite. There is a positive correlation among abundances of secondary silica, sulfides, and gold (White, 1988).

The Miocene volcanic rocks northeast of the Vulture mine were deposited on the Proterozoic crystalline rocks that host the Vulture mine gold deposit (Reynolds and others, 1988). The originally horizontal volcanic strata and their crystalline substrate have been rotated 70° to 90° so that bedding is now almost vertical. Rocks exposed in the Vulture mine area, therefore, represent an originally vertical cross section that has been tilted approximately 80° to the east by rotational normal faulting. The map view (Figure 2) represents what was originally a vertical cross-section view; what is visible in a north-south cross section (Figure 3) was originally horizontal.

Conceptual restoration of the rocks of the Vulture mine area to their pre-rotation orientation reveals the approximate geometry of the ore deposit at the time of mineralization. Mineralization and alteration originally occurred along a north-northeast-trending subvertical dike that projected upward from the structural top of a Cretaceous granitoid pluton (Figure 4A). The association of gold with the dike (Figure 3) and gradation of the dike into the granitic rocks of the pluton indicate that gold mineralization was intimately related to Cretaceous magmatism and dike emplacement. Later erosion and subsequent burial by lower Miocene volcanic rocks (Figure 4B) was followed by structural dismemberment and tilting (Figure 4C) and eventual uncovering by late Cenozoic erosion. The Astor fault (Figure 3), which is probably one of the youngest faults in the area, cuts the deposit and has displaced its down-dip continuation by an unknown amount (White, 1988).

Fluid-Inclusion Characteristics

Fluid inclusions are bubbles of liquid and gas that are trapped inside minerals during mineral formation. The composition of fluids in inclusions that were trapped in mineral deposits at the time of deposit formation reflects the composition of the aqueous fluids from which the deposits formed. One can determine the salinity of the inclusions by measuring the freezing temperature of the trapped fluid. The minimum temperature of the fluid at the time it was trapped can be determined by heating the sample until the two phases (liquid and gas) in the inclusion become one. (This is called the *homogenization temperature.*) Fluid inclusions that formed during precipitation of host minerals are called *primary*, whereas those that formed later along fracture planes are called *secondary*.

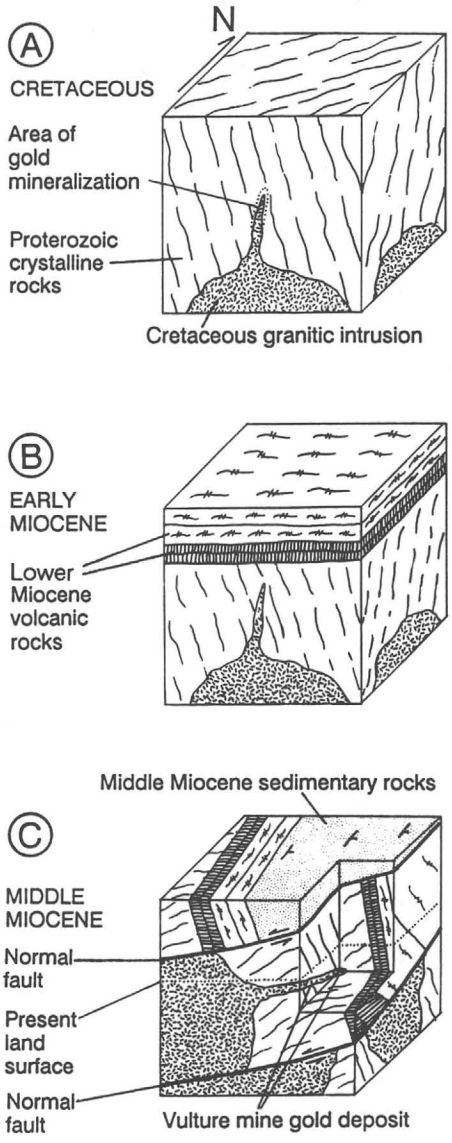
Quartz veins are numerous over a broad area around the Vulture mine. Samples of veins were collected from an area (Figure 2) that represents an originally vertical cross section through the Vulture mine and that includes more than 1 kilometer of paleodepth range. Homogenization temperatures of primary and secondary fluid inclusions vary from approximately 200°C to 320°C and calculated salinities vary from approximately 1 to 18 percent NaCl equivalent by weight. Homogenization temperatures and salinities generally decrease with decreasing paleodepth (Figure 5). These fluid-inclusion data reveal the temperatures and salinities of the hydrothermal fluids that were probably undergoing convective circulation above the Cretaceous intrusion and that were respon-

sible for much or all of the mineralization and alteration at the Vulture mine. Greater fluid temperatures at greater depths probably reflect heat from the magma intrusion (now the granitoid pluton) that lay beneath the Vulture mine deposit. Downward-increasing fluid salinities may reflect a downward increase in the proportion of aqueous fluid expelled by the magma during crystallization.

Conclusion

Recent geologic mapping of the Vulture Mountains and adjacent ranges has established that the area has undergone large-magnitude extension as a result of rotational normal faulting (Grubensky and others, 1987; Stimac and others, 1987; Grubensky and Reynolds, 1988; see also Rehrig and others, 1980). Geologic mapping in the Vulture mine area indicates that this area has been faulted and tilted like most of the range and that the Vulture mine gold deposit has been tilted approximately 80° (Reynolds and others, 1988). Drill-hole assay data show that mineralization is associated with a dike that extends from the structural top of a Cretaceous pluton (White, 1988). Fluid-inclusion studies indicate that mineralization at the Vulture mine deposit occurred within a larger system of circulating aqueous fluids in which temperature and salinity increased downward toward a crystallizing magma body.

Figure 3 (below). Geologic cross section through the Vulture mine (modified from White, 1988 and unpublished data). See Figure 2 for location.



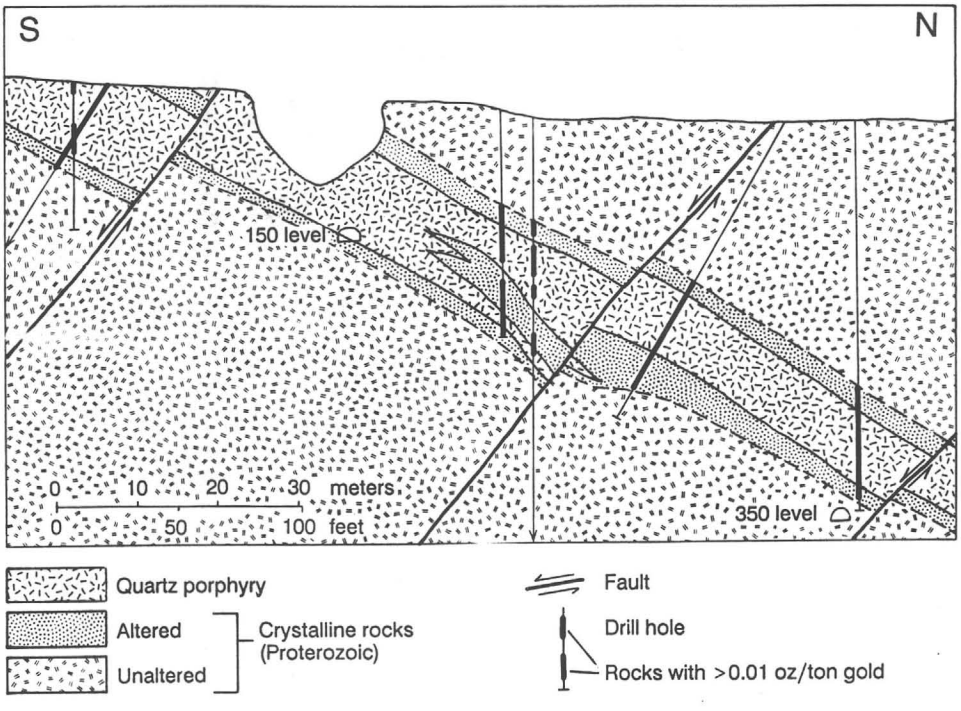
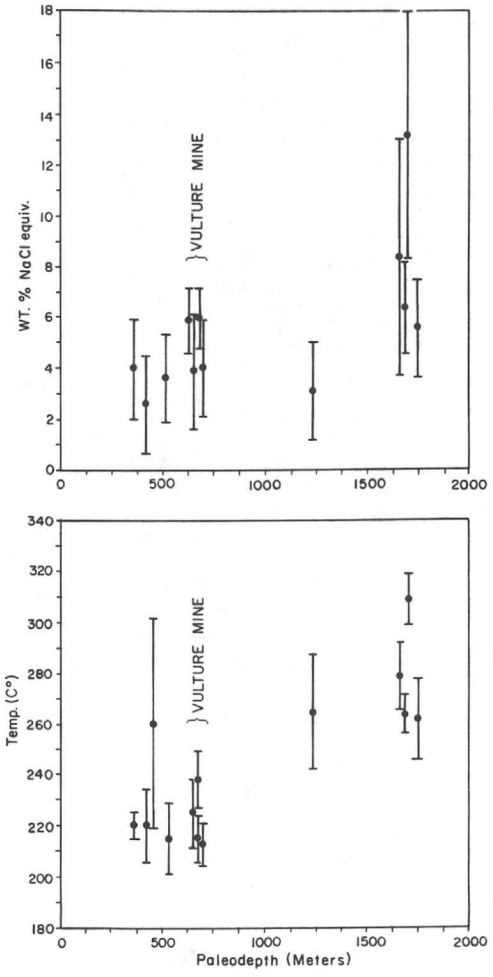


Figure 4 (left). Evolutionary block diagram of the Vulture mine area. Although only one generation of normal faults is shown, rotation probably occurred by movement on two or more generations of normal faults and is more complex than is shown here.

Figure 5 (below). Paleodepth versus salinity (upper diagram) and homogenization temperature (lower diagram) for fluid inclusions from quartz veins in the Vulture mine area. Paleodepth is the distance perpendicular to the approximately vertical disconformity at the base of Miocene volcanic rocks in the Vulture mine fault block. The actual depth of Vulture mine rocks at the time of mineralization was probably 1 to several kilometers.



Recognition of this type of ore-deposit tilting and possible structural dismemberment has implications for exploration strategies in extended areas. Specifically, mineral exploration in highly extended areas characterized by rotational normal faulting may be facilitated by the knowledge that mineral deposits may have been tilted 80° from their original orientation. Such rotation provides a natural laboratory for the study of mineral deposits because the

deposits are exposed in what was originally a near-vertical cross section. This type of extensional faulting may also cut an ore deposit into two or more pieces and leave them in shinglelike imbricate fault blocks separated from each other by several kilometers (e.g., Lowell, 1968).

References

Grubensky, M.J., and Reynolds, S.J., 1988, Geologic map of the southeastern Vulture Mountains, west-central Arizona: Arizona Geological Survey Open-File Report 88-9, 16 p., scale 1:24,000.

Grubensky, M.J., Stimac, J.A., Reynolds, S.J., and Richard, S.M., 1987, Geologic map of the northeastern Vulture Mountains and vicinity, central Arizona: Arizona Bureau of Geology and Mineral Technology Open-File Report 87-10, 7 p., scale 1:24,000.

Lowell, J.D., 1968, Geology of the Kalamazoo orebody, San Manuel district, Arizona: Economic Geology, v. 63, p. 645-654.

Rehrig, W.A., Shafiqullah, M., and Damon, P.E., 1980, Geochronology, geology, and listric normal faulting of the Vulture Mountains, Maricopa County, Arizona, *in* Jenney, J.P., and Stone, Claudia, eds., Studies in western Arizona: Arizona Geological Society Digest, v. 12, p. 89-110.

Reynolds, S.J., Spencer, J.E., DeWitt, Ed, White, D.C., and Grubensky, M.J., 1988, Geologic map of the Vulture mine area, Vulture Mountains, west-central Arizona: Arizona Geological Survey Open-File Report 88-10, 4 p., scale 1:24,000.

Stimac, J.A., Fryxell, J.E., Reynolds, S.J., Richard, S.M., Grubensky, M.J., and Scott, E.A., 1987, Geologic map of the Wickenburg, southern Buckhorn, and northwestern Hieroglyphic Mountains, central Arizona: Arizona Bureau of Geology and Mineral Technology Open-File Report 87-9, 13 p., scale 1:24,000, 2 sheets.

White, Don, 1988, Geology of the Vulture mine, Arizona: American Institute of Mining, Metallurgical, and Petroleum Engineers, Society of Mining Engineers Preprint 88-44, 5 p.

State Geological Survey - U.S. Geological Survey Meeting Held in Tucson

Figure 1. Representatives from the AZGS and USGS discuss the Cooperative Geologic Mapping (COGEOMAP) program. Left to right: Larry Fellows (AZGS Director and State Geologist), Steve Reynolds (AZGS Research Geologist), Ben Morgan (USGS Chief Geologist, Reston), and Dave Russ (USGS Assistant Chief Geologist for Programs, Reston).

The annual meeting of the directors of western State geological surveys and key U.S. Geological Survey (USGS) staff was held in Tucson October 22-25 at the Ghost Ranch Lodge. The purposes of the meeting were to improve communication between staff of the State and Federal surveys; learn about current activities, projects, and concerns (Figure 1); and explore ways of fulfilling the respective statutory mandates more effectively through improved coordination and cooperation. Ten of the 13 western State geological surveys were represented; approximately 20 USGS staff members, primarily from the Office of Mineral Resources, were also present.

Western State geologists held an all-day business meeting at the Arizona Geological Survey (AZGS) on October 21 (Figure 2). USGS geologists held a variety of postmeeting functions at their Arizona Field Office.

Two major discussion sessions were held at the joint meeting: (1) the Mineral Resources Data System (MRDS), a computerized database maintained by the USGS, and (2) outreach activities in earth science education. A half-day field trip was taken to observe detachment-fault geology and the impacts of groundwater withdrawal, subsidence, and earth fissures in the Picacho basin (Figure 3).

The 1990 meeting will be cohosted by the USGS and Idaho Geological Survey in Moscow, Idaho.

Figure 3 (above). AZGS geologists Phil Pearthree and Steve Reynolds discuss areas of subsidence and earth fissures in the Picacho basin with field-trip participants.

Figure 2 (left). Western State geologists meet to discuss mutual concerns. Top row, left to right: Bob Forbes (Alaska), Ed Ruppel (Montana), Jon Price (Nevada), Don Haney (Kentucky; President of the Association of American State Geologists), and Larry Fellows (Arizona). Seated, left to right: Eric Schuster (Deputy Director, Washington), Jim Davis (California), Earl Bennett (Idaho), Jamie Robertson (Deputy Director, New Mexico), and Lee Allison (Utah).

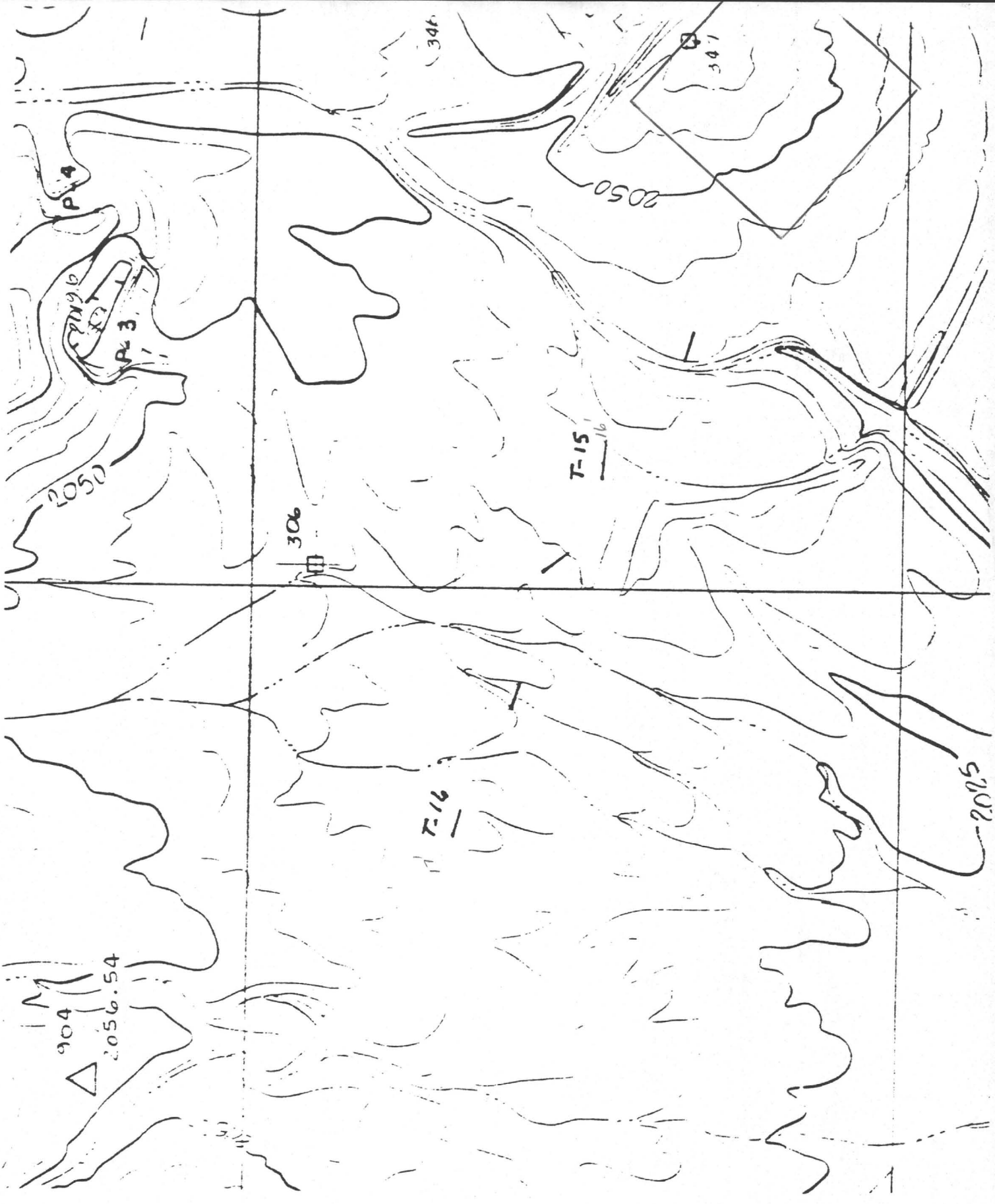
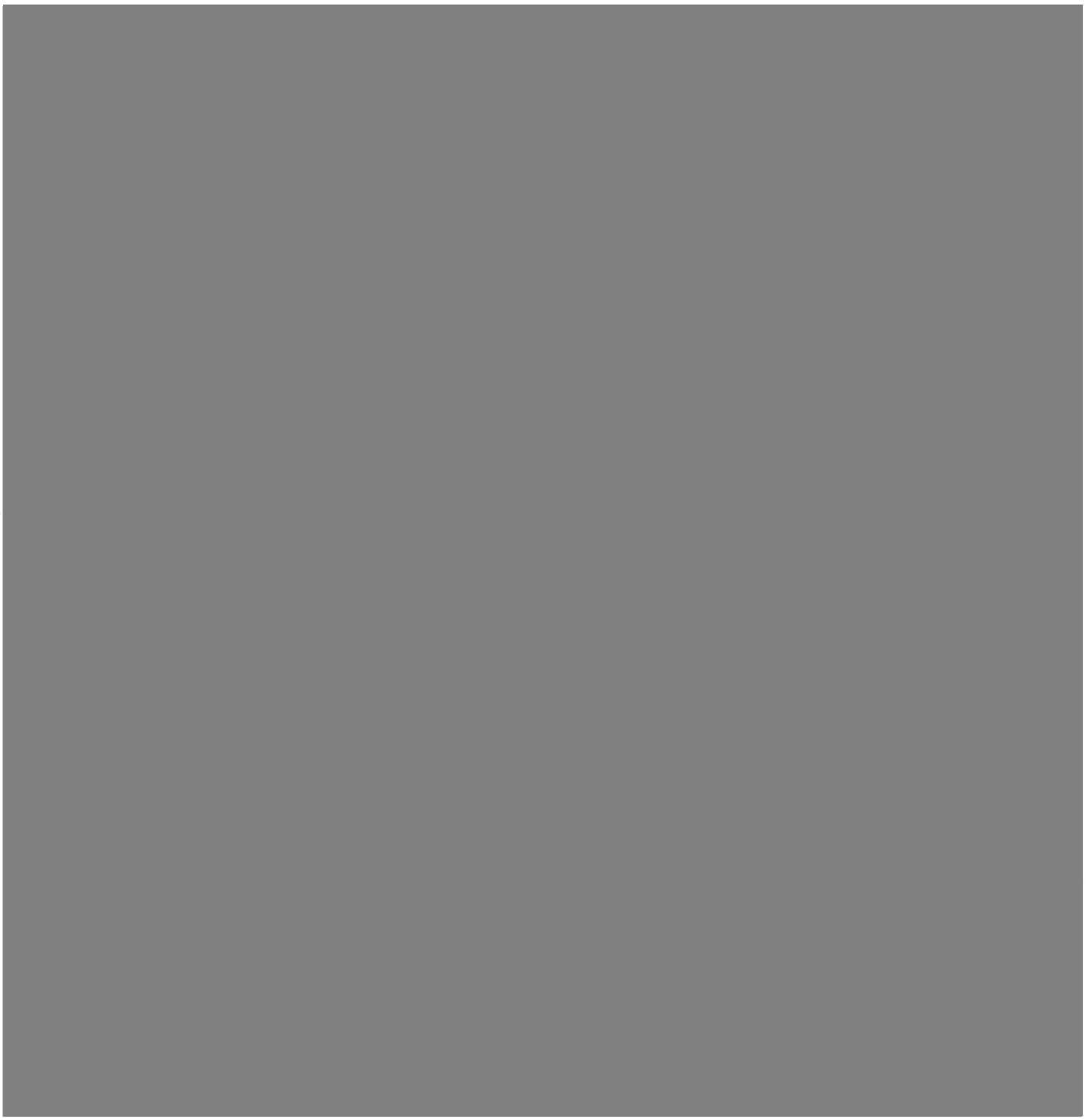
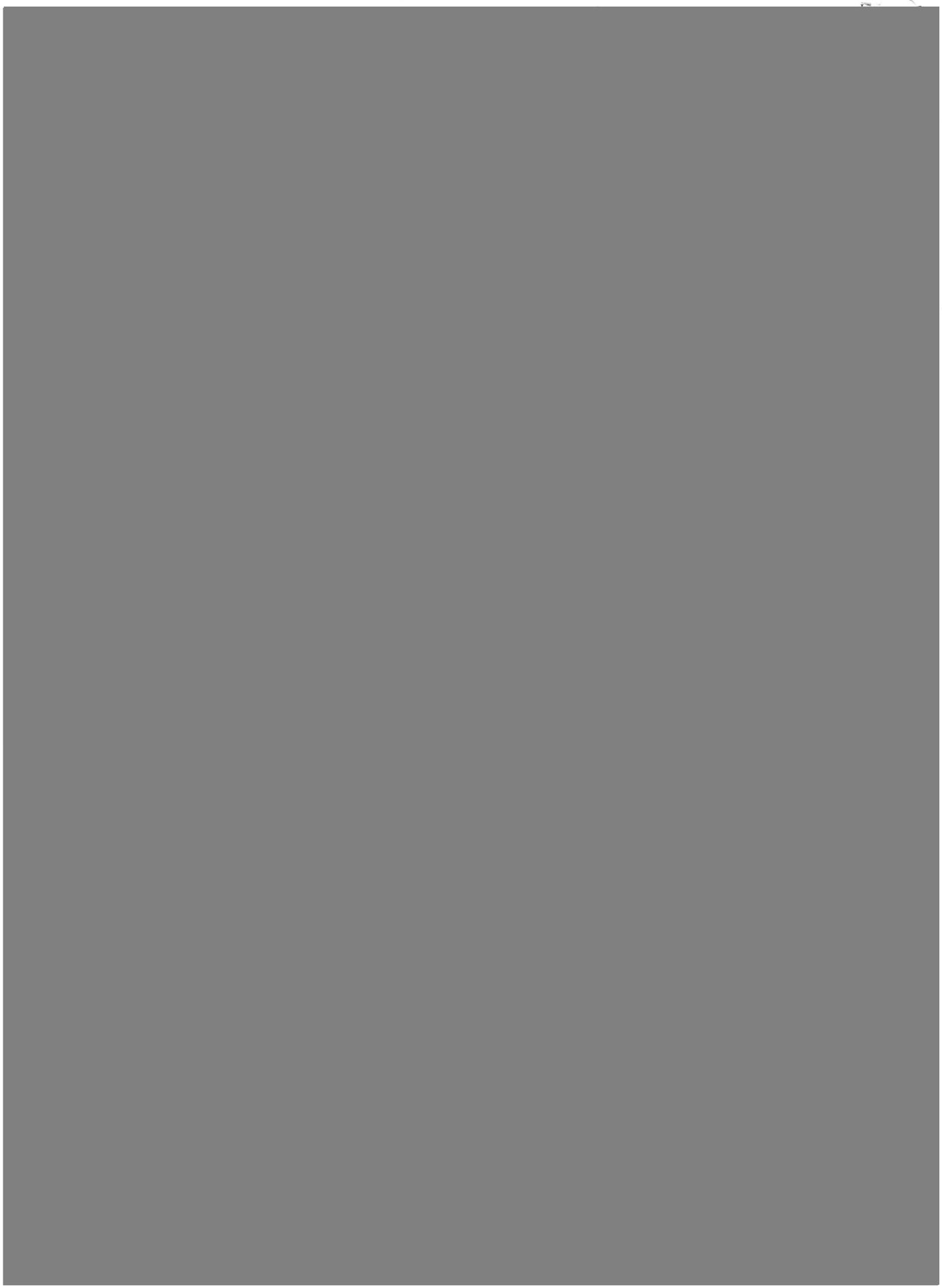


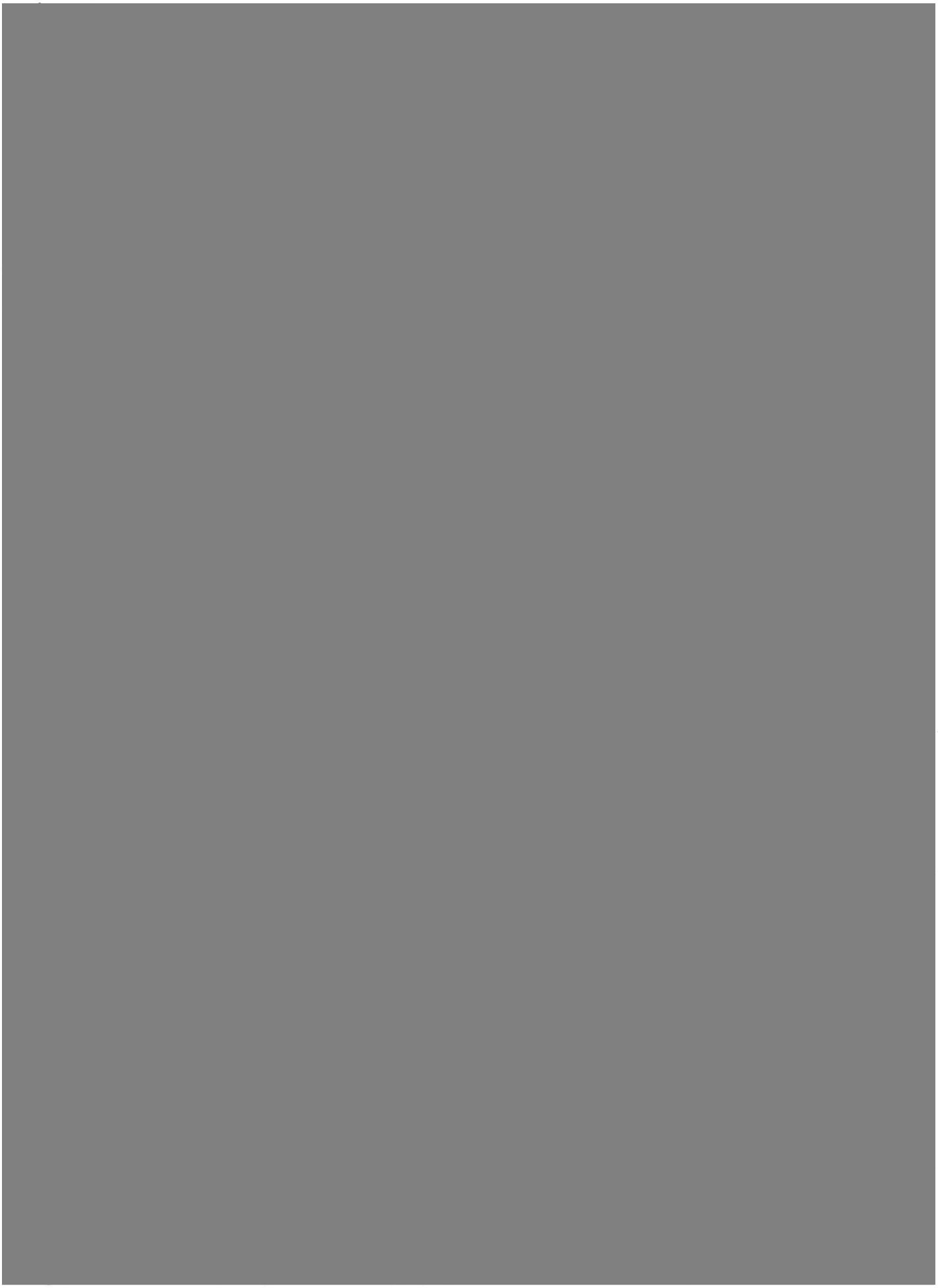
Figure 7
Vulture Mine Placer Project
Showing sampled trenches in southwest area.

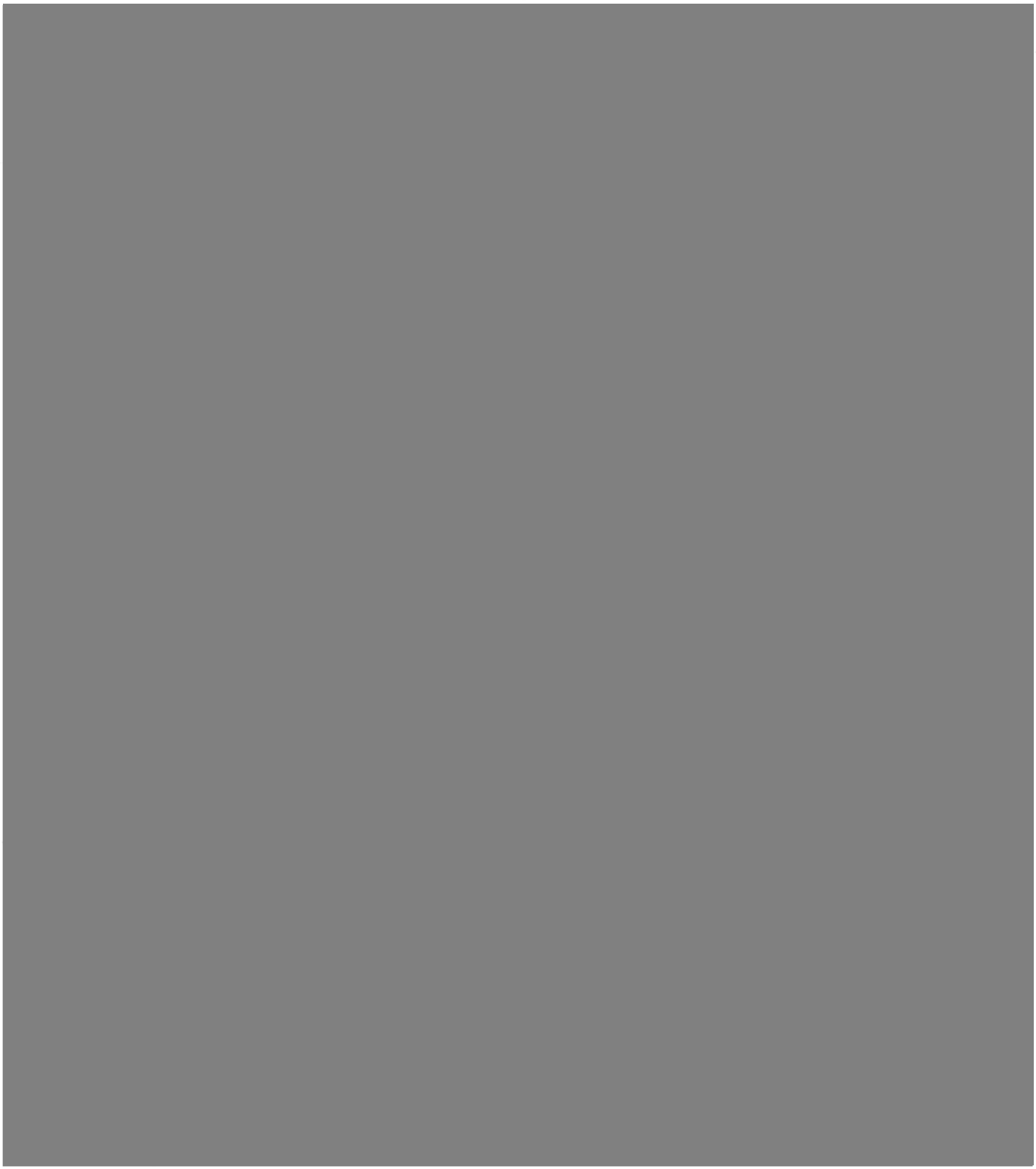
Geology of the Vulture Mine

Don C. White









BUDGE

A.F. Budge (Mining) Limited

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

February 28, 1990

Larry W. Beal
President
V.M.P.,Inc.
1414 E. Purdue
Phoenix, AZ 85020

Dear Larry:

We appreciate your taking the time to meet with us last week to discuss matters pertaining to the Vulture Mine property. We shall try to address each of your concerns.

In the matter of the Vulture City Townsite, the original agreement, dated July 1, 1984, specifically addresses Boundary Protection in Section 12 on page 12, and states "If Budge or Lessor locates mining claims ... within one mile from the exterior boundaries of the Property, such claims shall become part of the Property...". The Townsite, not being a mining claim, was purchased for cash from the Court and title belongs to Budge.

In the matter of the Production Bonus, we believe our position was clearly stated in our letter of August 30, 1988.

As to Mr. Osborne, the 1984 "Memorandum of Understanding", by and between V.M.P., Inc. and A.F. Budge (Mining) Limited clearly states that "Budge (will) pay...per month each to such individuals...during the term of the option...", and that, after the option was exercised, "...the decision to use or not use such services (offered by Messrs. Osbornes) shall be within the sole discretion of Budge."

As was discussed in the meeting, we have exhausted the most obvious possibilities for expanding reserves at the Vulture. This does not preclude the existance of higher risk targets. However, under the present conditions of the agreement, the holdings costs are too higher to warrant the expenditure of funds.

Therefore, we would like to propose the following:

(1) Monthly payments would be reduced to a fixed $2,500 per month during the exploration term of 48 months.

(2) At the end of the 48-month exploration period or with the completion of a feasibility study, payments would be increased to $5,000 per month and would continue until production begins.

(3) Once production begins, the property would be purchased for $3,000,000 with payments made at a rate of $500,000 per year for six (6) years.

(4) During the new agreement, Mr. Osborne would be retained as a watchman and would be allowed to conduct his various "tourist activities".

A response to this proposal by March 9, 1990 would be appreciated.

Very truly yours,

Ronald R. Short
General Manager

A.F. Budge (Mining) Limited
4301 N. 75th Street, Suite 101
Scottsdale, AZ 85251-3504

Date: April 6, 1990 Time: 8:05 a.m.

To: John Lacy

FAX #

From: Carole A. O'Brien

Comments/Remarks: letter of 2/28/90 to Larry Beal FYI

Total number pages including cover: 3

Please call (602) 945-4630 if all pages are not received.

Origination FAX # 602-949-1737

DeCONCINI McDONALD BRAMMER YETWIN & LACY, P.C.
ATTORNEYS AT LAW

240 NORTH STONE AVENUE
TUCSON, ARIZONA 85701-1295
(602) 623-3411

4041 NORTH CENTRAL, SUITE 640
PHOENIX, ARIZONA 85012-3398
(602) 248-0036

EVO DeCONCINI
J. WM. BRAMMER, JR.
JOHN C. LACY
WILLIAM B. HANSON
DAVID C. ANSON
JAMES A. JUTRY
MICHAEL R. URMAN
NANCY DARU YAELI
JOHN R. McDONALD
RICHARD M. YETWIN
ROBERT M. STRUSE
JOHN C. RICHARDSON
DEBORAH OSERAN
SPENCER A. SMITH
DENISE M. BAINTON
BERNARD C. OWENS

DOUGLAS G. ZIMMERMAN
GARY L. LASSEN
DIANE M. MILLER
VIRGINIA BARKLOW
KENNETH C. SUNDLOF, JR.
MATTHEW R. BERENS
JAMES E. CARTER
DINO DeCONCINI, OF COUNSEL

PLEASE REPLY TO: TUCSON

May 14, 1986

DMEA LTD.
MAY 17 1986
RECEIVED

Ms. Carole A. O'Brien
DMEA Ltd.
7340 East Shoeman Lane
Suite 111 "B"(E)
Scottsdale, Arizona 85251

Re: A.F. Budge/V.M.P. Short Form

Dear Carole:

I have enclosed a Short Form of the agreement as amended between V.M.P. Inc. and A.F. Budge (Mining) Ltd. Please note that this Short Form does not contain an Exhibit A as I did not have the complete listing. I would appreciate it if you would xerox a copy of the exhibit from the current property listing, including the amended claims, and attach it to the Short Form for recordation purposes.

Very truly yours,

John C. Lacy

jk

Enc.

JCL
05-14-86

SHORT FORM OPTION AND LEASE AGREEMENT

THIS SHORT FORM is to give notice of an Option and Lease Agreement

effective as of the 1st day of July, 1984, as amended by a First Amendment to Option and Lease Agreement effective February 1, 1985 (collectively the "Agreement as amended" herein),

by which V.M.P., INC., an Arizona corporation, whose address is Box 20202, Wickenburg, Arizona 85358 (as the "Lessor"),

granted certain rights to

A.F. BUDGE (MINING) LIMITED, a registered corporation under the laws of England, Agreement as amended was thereafter assigned to CLEARWATER MINING CORPORATION, an Arizona corporation, a wholly owned subsidiary of Budge, whose address is c/o DMEA Ltd., 7340 East Shoeman Lane, Suite 111"B"(E), Scottsdale, Arizona 85251 ("Budge" herein),

under the following terms and conditions:

1. Grant

Lessor granted, demised, leased and let that certain real property, including patented and unpatented mining claims in the Vulture Mining District, Maricopa County, Arizona, more particularly described in the attached Exhibit A (the "Property" herein) to Budge. By the terms of the original agreement Lessor granted Budge the sole and exclusive option to enter into a lease with Lessor, which option was exercised by Budge by the first amendment. Upon exercise of the option, Budge, in addition to the right to conduct Mineral Exploration, was granted rights to conduct Mining Activities on and under the Property to produce, process and market Leased Substances during the term of the Agreement, all as more specifically defined in the Agreement as amended.

2. Term

Unless sooner terminated under the termination provisions hereinafter contained, the term of the Agreement as amended is for a term that shall remain in force for so long as Budge makes the payments and performs annual work as specified in the Agreement as amended.

3. Payments to Lessor

Budge is required to pay Lessor an Advance Minimum Royalty on a monthly basis, which payments are credited toward a royalty on production if Budge mines and markets Leased Substances from the Property. Budge is also required to pay Lessor a production bonus on a one-time basis if Budge elects to commence mineral production on the Property. All of the payment provisions are specifically set forth in the Agreement as amended.

4. Obligations of Budge

By the terms of the Agreement, Budge is required to pay all expenses incurred by it in its operations on the Property and allow no liens arising from any act of Budge to remain on the Property, provided that Budge has the right to contest the validity or amount of liens. Budge is required to protect, defend and indemnify Lessor against any suit, claim, judgment, demand, administrative proceeding or sanction or expense, including reasonable attorneys' fees arising out of Budge's exercise of any of its rights pursuant to the Agreement, and pay all taxes levied against its improvements on the Property, including ad valorem taxes assessed against commercial development. Budge is also obligated to perform assessment work (unless excused, suspended or deferred) for the benefit of the Property for each assessment year during which the Agreement continues in force beyond July 1 of the applicable assessment year. All of the above obligations are set forth in detail in the Agreement as amended.

5. Title

By the terms of the Agreement as amended, Budge has been authorized to take whatever action is necessary to cure alleged defects in title if the Lessor is unable or unwilling to do so. has the further right to amend or relocate any of the mining claims included within the Property and to undertake to obtain patent to any of the mining claims that constitute the Property.

6. Assignment

Neither party may assign its rights in the Agreement as amended or the Property without the prior written consent of the other party, which consent shall not be unreasonably withheld. This provision does not apply to mergers, transfers through operation of law, or sale and assignments to subsidiaries of the parties, their corporate parents or subsidiaries of their corporate parents. A subsidiary shall be deemed any corporation or other entity in which the party

or its parent owns or controls a majority of the stock or interest.

7. Copies of the Agreement

Copies of the Agreement are in the possession of the parties at the addresses indicated in the recitals.

SIGNED, effective as of the date recited above.

LESSOR:

V.M.P., INC.

By_____
Larry W. Beal, President

BUDGE:

A.F. BUDGE (MINING) LIMITED

By_____
A.F. Budge, Chairman

CLEARWATER MINING CORPORATION

By_____
A.F. Budge, President

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this _____ day of _____, 1986, by Larry W. Beal, the President of V.M.P., Inc., an Arizona corporation, for and on behalf of the corporation.

My commission expires: _____ Notary Public

_____

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 20th day of May, 1986, by A.F. Budge, the Chairman of A.F. Budge (Mining) Limited, a corporation registered under the laws of England, for and on behalf of the corporation.

Carol A. O'Brien
Notary Public

My commission expires:
My Commission Expires April 14, 1987

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 20th day of May, 1986, by A.F. Budge, the President of Clearwater Mining Corporation, an Arizona corporation, for and on behalf of the corporation.

Carol A. O'Brien
Notary Public

My commission expires:
My Commission Expires April 14, 1987

3,5-168

JCL
05-19-86

SHORT FORM OPTION AND LEASE AGREEMENT

THIS SHORT FORM is to give notice of an Option and Lease Agreement

effective as of the 1st day of July, 1984, as amended by a First Amendment to Option and Lease Agreement effective February 1, 1985 (collectively the "Agreement as amended" herein),

by which V.M.P., INC., an Arizona corporation, whose address is Box 20202, Wickenburg, Arizona 85358 (as the "Lessor"),

granted certain rights to

A.F. BUDGE (MINING) LIMITED, a registered corporation under the laws of England, Agreement as amended was thereafter assigned to CLEARWATER MINING CORPORATION, an Arizona corporation, a wholly owned subsidiary of Budge, whose address is c/o DMEA Ltd., 7340 East Shoeman Lane, Suite 111"B"(E), Scottsdale, Arizona 85251 ("Budge" herein),

under the following terms and conditions:

1. Grant

Lessor granted, demised, leased and let that certain real property, including patented and unpatented mining claims in the Vulture Mining District, Maricopa County, Arizona, more particularly described in the attached Exhibit A (the "Property" herein) to Budge. By the terms of the original agreement Lessor granted Budge the sole and exclusive option to enter into a lease with Lessor, which option was exercised by Budge by the first amendment. Upon exercise of the option, Budge, in addition to the right to conduct Mineral Exploration, was granted rights to conduct Mining Activities on and under the Property to produce, process and market Leased Substances during the term of the Agreement, all as more specifically defined in the Agreement as amended.

2. Term

Unless sooner terminated under the termination provisions hereinafter contained, the term of the Agreement as amended is for a term that shall remain in force for so long as Budge makes the payments and performs annual work as specified in the Agreement as amended.

3. Payments to Lessor

Budge is required to pay Lessor an Advance Minimum Royalty on a monthly basis, which payments are credited toward a royalty on production if Budge mines and markets Leased Substances from the Property. Budge is also required to pay Lessor a production bonus on a one-time basis if Budge elects to commence mineral production on the Property. All of the payment provisions are specifically set forth in the Agreement as amended.

4. Obligations of Budge

By the terms of the Agreement, Budge is required to pay all expenses incurred by it in its operations on the Property and allow no liens arising from any act of Budge to remain on the Property, provided that Budge has the right to contest the validity or amount of liens. Budge is required to protect, defend and indemnify Lessor against any suit, claim, judgment, demand, administrative proceeding or sanction or expense, including reasonable attorneys' fees arising out of Budge's exercise of any of its rights pursuant to the Agreement, and pay all taxes levied against its improvements on the Property, including ad valorem taxes assessed against commercial development. Budge is also obligated to perform assessment work (unless excused, suspended or deferred) for the benefit of the Property for each assessment year during which the Agreement continues in force beyond July 1 of the applicable assessment year. All of the above obligations are set forth in detail in the Agreement as amended.

5. Title

By the terms of the Agreement as amended, Budge has been authorized to take whatever action is necessary to cure alleged defects in title if the Lessor is unable or unwilling to do so. Budge has the further right to amend or relocate any of the mining claims included within the Property and to undertake to obtain patent to any of the mining claims that constitute the Property.

6. Assignment

Neither party may assign its rights in the Agreement as amended or the Property without the prior written consent of the other party, which consent shall not be unreasonably withheld. This provision does not apply to mergers, transfers through operation of law, or sale and assignments to subsidiaries of the parties, their corporate parents or subsidiaries of their corporate parents. A subsidiary shall be deemed any corporation or other entity in which the party

or its parent owns or controls a majority of the stock or interest.

7. Copies of the Agreement

Copies of the Agreement are in the possession of the parties at the addresses indicated in the recitals.

SIGNED, effective as of the date recited above.

LESSOR:

V.M.P., INC.

By_____
Larry W. Beal, President

BUDGE:

A.F. BUDGE (MINING) LIMITED

By_____
A.F. Budge, Chairman

CLEARWATER MINING CORPORATION

By_____
A.F. Budge, President

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this _____ day of _____, 1986, by Larry W. Beal, the President of V.M.P., Inc., an Arizona corporation, for and on behalf of the corporation.

My commission expires: _____
Notary Public
_____

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this _____ day of _____, 1986, by A.F. Budge, the Chairman of A.F. Budge (Mining) Limited, a corporation registered under the laws of England, for and on behalf of the corporation.

My commission expires: _____
Notary Public
_____

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this _____ day of _____, 1986, by A.F. Budge, the President of Clearwater Mining Corporation, an Arizona corporation, for and on behalf of the corporation.

My commission expires: _____
Notary Public
_____

3,5-168

DeCONCINI McDONALD BRAMMER YETWIN & LACY
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

EVO DeCONCINI (1901-1986)

JOHN R. McDONALD
RICHARD M. YETWIN
DINO DeCONCINI
WILLIAM B. HANSON
DAVID C. ANSON
SPENCER A. SMITH
DENISE M. BAINTON
KAREN J. NYGAARD
SUSAN E. MILLER
MARK D. LAMMERS
WAYNE E. YEHLING
J. WM. BRAMMER, JR.
JOHN C. LACY
ROBERT M. STRUSE
JOHN C. RICHARDSON
JAMES A. JUTRY
MICHAEL R. URMAN
DAVID F. GAONA
LUIS A. OCHOA
GARY F. URMAN
FRANCES J. HAYNES
CHRISTINA URIAS

2525 EAST BROADWAY BOULEVARD, SUITE 200
TUCSON, ARIZONA 85716-5303
(602) 322-5000
FAX: (602) 322-5585

2901 NORTH CENTRAL AVENUE, SUITE 1644
PHOENIX, ARIZONA 85012-2736
(602) 241-0100
FAX: (602) 241-0220

March 21, 1990

RECEIVED MAR 23 1990

PLEASE REPLY TO TUCSON

Mr. Ronald R. Short
General Manager
A.F. Budge (Mining) Limited
4301 N. 75th Street, Suite 101
Scottsdale, AZ 85251

Re: **Vulture Mine Project; Assignment to Arizona-Ontario Explorations Inc.**

Dear Ron:

I have enclosed herewith a Short Form Assignment Agreement for recording purposes whereby notice of the assignment of A. F. Budge's rights in the agreement with V.M.P. Inc. have been assigned to Arizona-Ontario Explorations Inc. It is my suggestion that if the reassignment provisions are not invoked a "clean" assignment should be recorded after four years.

Please note that this document does not contain the recording information of the short form of the First Amendment to the V.M.P. Agreement. Carole has indicated that she believes that this document has never been recorded but that she would do so. Thus, you should wait on recording the enclosed short form until you have the recording information from the V.M.P. short form and can insert the same in the place provided in the short form of the assignment. Please also note that the Short Form Assignment Agreement contemplates the attachment of an Exhibit A describing the "Property." This should be the same property description as is attached to the V.M.P. Agreement together with any additions or corrections of the mining claims that have occurred since the effective date of the V.M.P. Agreement.

Please feel free to give me a call if you have any questions. I would also appreciate being furnished with a copy of the recorded Short Form of Assignment Agreement for my records.

Very truly yours,

John C. Lacy

Enclosure
0320900910.jcl2.840127

DeCONCINI McDONALD BRAMMER YETWIN & LACY
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

EVO DeCONCINI (1901-1986)

JOHN R. McDONALD
RICHARD M. YETWIN
DINO DeCONCINI
WILLIAM B. HANSON
DAVID C. ANSON
SPENCER A. SMITH
DENISE M. BAINTON
KAREN J. NYGAARD
SUSAN E. MILLER
MARK D. LAMMERS
WAYNE E. YEHLING
J. WM. BRAMMER, JR.
JOHN C. LACY
ROBERT M. STRUSE
JOHN C. RICHARDSON
JAMES A. JUTRY
MICHAEL R. URMAN
DAVID F. GAONA
LUIS A. OCHOA
GARY F. URMAN
FRANCES J. HAYNES
CHRISTINA URIAS

2525 EAST BROADWAY BOULEVARD, SUITE 200
TUCSON, ARIZONA 85716-5303
(602) 322-5000
FAX: (602) 322-5585

2901 NORTH CENTRAL AVENUE, SUITE 1644
PHOENIX, ARIZONA 85012-2736
(602) 241-0100
FAX: (602) 241-0220

May 15, 1990

PLEASE REPLY TO TUCSON

RECEIVED MAY 16 1990

Ms. Carole A. O'Brien
A.F. Budge (Mining) Limited
4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

Re: **BLM Surface Management Regulations**

Dear Carole:

I have enclosed a copy of Part 3800 of Title 43 of the Code of Federal Regulations concerning the surface management of BLM lands. These regulations are applicable to "federal lands" which are defined under Section 3809.0-5(c) as not including (1) acquired lands, (2) stock raising homestead lands, (3) lands where the surface is in non-federal ownership with the mineral interest reserved to the United States (i.e., exchange lands), and (4) certain other categories.

Thus, on "ordinary" public lands either a notice or permit is required as a part of operations. Where less than five acres is involved, only a "notice of intent to operate" is required subject to certain limitations but there are other instances where a "plan of operations" will be required.

Failure to comply with these regulations is governed by Section 3809.3-2 that, in effect, will require the operator to comply with instructions of the Bureau of Land Management or face certain sanctions.

After you have had a chance to review these regulations, please let me know if you have any questions.

Very truly yours,

John C. Lacy

bpm
Enclosure
0514900430.jcl2.840127

TITLE 43 - CODE OF FEDERAL REGULATIONS
BLM SURFACE MANAGEMENT REGULATIONS
Current through October 1, 1985

PART 3800—MINING CLAIMS UNDER THE GENERAL MINING LAWS

General

Subpart 3809—Surface Management

SOURCE: The provisions of Subpart 3809 appear at 45 *F.R.* 78909, 11/26/80, unless otherwise noted.

General

Subpart 3809—Surface Management

§ 3809.0-1 Purpose.

The purpose of this subpart is to establish procedures to prevent unnecessary or undue degradation of federal lands which may result from operations authorized by the mining laws.

§ 3809.0-2 Objectives.

The objectives of this regulation are to:

(a) Provide for mineral entry, exploration, location, operations, and purchase pursuant to the mining laws in a manner that will not unduly hinder such activities but will assure that these activities are conducted in a manner that will prevent unnecessary or undue degradation and provide protection of nonmineral resources of the Federal lands;

(b) Provide for reclamation of disturbed areas; and

(c) Coordinate, to the greatest extent possible, with appropriate State agencies, procedures for prevention of unnecessary or undue degradation with respect to mineral operations.

§ 3809.0-3 Authority.

(a) Section 2319 of the Revised Statutes (30 U.S.C. 22 *et seq.*) provides that exploration, location and purchase of valuable mineral deposits, under the

GULATIONS
GULATIONS
1985

The provisions of Subpart 3809
.R. 78909, 11/26/80, unless
d.

)—Surface Management

Purpose.

e of this subpart is to estab-
es to prevent unnecessary
radation of federal lands
esult from operations au-
e mining laws.

Objectives.

ves of this regulation are

for mineral entry, explo-
on, operations, and pur-
t to the mining laws in a
ill not unduly hinder such
will assure that these
onducted in a manner that
nnecessary or undue de-
l provide protection of
sources of the Federal

for reclamation of dis-
nd
ate, to the greatest extent
appropriate State agen-
es for prevention of un-
ndue degradation with re-
al operations.

Authority.

2319 of the Revised Stat-
. 22 *et seq.*) provides that
cation and purchase of
ral deposits, under the

mining laws, on Federal lands shall be "under regulations prescribed by law," and section 2478 of the Revised Statutes, as amended (43 U.S.C 1201), provides that those regulations shall be issued by the Secretary.

(b) Sections 302, 303, 601, and 603 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*) require the Secretary to take any action, by regulation or otherwise, to prevent unnecessary or undue degradation of the Federal lands, provide for enforcement of those regulations, and direct the Secretary to manage the California Desert Conservation Area under reasonable regulations which will protect the scenic, scientific, and environmental values against undue impairment, and to assure against pollution of streams and waters.

(c) The Act of July 23, 1955 (30 U.S.C. 612), provides that rights under mining claims located after July 23, 1955, shall prior to issuance of patent therefor, be subject to the right of the United States to manage and dispose of the vegetative surface resources and to manage other surface resources. The Act also provides that "Any mining claim hereafter located under the mining laws of the United States shall not be used, prior to issuance to patent therefor, for any purposes other than prospecting, mining or processing operations and uses reasonably incident thereto."

(d) Section 9 of the Wild and Scenic Rivers Act (16 U.S.C. 1280) provides that regulations issued shall, among other things, provide safeguards against pollution of the rivers involved and unnecessary impairment of the scenery within the area designated for potential addition to, or an actual component of the national wild and scenic rivers system.

§ 3809.0-5 Definitions.

As used in this subpart, the term:

(a) "Authorized officer" means any employee of the Bureau of Land Management to whom authority has been delegated to perform the duties described in this subpart.

(b) "Casual Use" means activities ordinarily resulting in only negligible disturbance of the Federal lands and resources. For example, activities are generally considered "casual use" if they do not involve the use of mechanized earth moving equipment or explosives or do not involve the use of motorized vehicles in areas designated as closed or limited to off-road vehicles as defined in subpart 8340 of this title.

(c) "Federal lands" means lands subject to the mining laws including, but not limited to, the certain "public lands" defined in section 103 of the Federal Land Policy and Management Act of 1976. Federal lands does not include lands in the National Park System, National Forest System, and the National Wildlife Refuge System, nor does it include acquired lands, Stockraising Homestead lands or lands where only the mineral interest is reserved to the United States or lands under Wilderness Review and administered by the Bureau of Land Management (these lands are subject to the 43 CFR Part 3802 regulations).

(d) "Mining claim" means any unpatented mining claim, millsite, or tunnel site located under the mining laws and those patented mining claims and millsites located in the California Desert Conservation Area which have been patented subsequent to the enactment of the Federal Land Policy and Management Act of October 21, 1976.

(e) "Mining laws" means the Lode Law of July 26, 1866, as amended (14 Stat. 251); the Placer Law of July 9, 1870, as amended (16 Stat. 217); and the Mining Law of May 10, 1872, as amended (17 Stat. 91); and all laws supplementing and amending those laws, including among others the Building Stone Act of August 4, 1892, as amended (27 Stat. 348); and the Saline Placer Act of January 31, 1901 (31 Stat. 745).

(f) "Operations" means all functions, work, facilities, and activities in connection with prospecting, discovery and assessment work, development, extraction, and processing of mineral deposits locatable under the mining laws and all other uses reasonably incident thereto, whether on a mining claim or not, including but not limited to the construction of roads, transmission lines, pipelines, and other means of access for support facilities across Federal lands subject to these regulations.

(g) "Operator" means a person conducting or proposing to conduct operations.

(h) "Person" means any citizen of the United States or person who has declared the intention to become such and includes any individual, partnership, corporation, association, or other legal entity.

(i) "Project area" means a single tract of land upon which an operator is, or will be, conducting operations. It may include one mining claim or a group of mining claims under one ownership on which operations are or will be conducted, as well as Federal lands on which an operator is exploring or prospecting prior to locating a mining claim.

(j) "Reclamation" means taking such reasonable measures as will prevent unnecessary or undue degradation of the Federal lands, including reshaping land disturbed by operations to an appropriate contour and, where necessary, revegetating disturbed areas so as to provide a diverse vegetative cover. Reclamation may not be required where the retention of a stable highwall or other mine workings is needed to preserve evidence of mineralization.

(k) "Unnecessary or undue degradation" means surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation. Where specific statutory authority requires the attainment of a stated level of protection or reclamation, such as in the California Desert Conservation Area, Wild and Scenic Rivers, areas designated as part of the National Wilderness System administered by the Bureau of Land Management, and other such areas, that level of protection shall be met. [*as amended 1983*]

§ 3809.0-6 Policy.

Consistent with section 2 of the Mining and Mineral Policy Act of 1970 and section 102(a)(7), (8) and (12) of the Federal Land Policy and Management Act, it is the policy of the Department of the Interior to encourage the development of federal mineral resources and reclamation of disturbed lands. Under the mining laws a person has a statutory right, consistent with Departmental regulations, to go upon the open (unappropriated and unreserved) federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto. This statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary or undue degradation of the federal lands and to provide for reasonable reclamation.

§ 3809.1 Operations.

§ 3809.1-1 Reclamation.

All operations, whether casual, under a notice, or by a plan of operations, shall be reclaimed as required in this title.

§ 3809.1-2 Casual use—negligible disturbance.

No notification to or approval by the authorized officer is required for casual use operations. However, casual use operations are subject to monitoring by the authorized officer to ensure that unnecessary or undue degradation of federal lands will not occur.

§ 3809.1-3 Notice—disturbance of 5 acres or less.

(a) All operators on project areas whose operations, including access across Federal lands to the project area, cause a cumulative surface disturbance of 5 acres or less during any calendar year shall notify the authorized officer in the District office of the Bureau of Land Management having jurisdiction over the land in which the claim(s) or project area is located. Prior to conducting additional operations under a subsequent notice covering substantially the same ground, the operator shall have completed reclamation of operations which were conducted under any previous notice. Notification of such activities, by the operator, shall be made at least 15 calendar days before commencing operations under this subpart by a written notice or letter.

(b) Approval of a notice, by the authorized officer, is not required. Consultation with the authorized officer is required under § 3809.1-3(c)(3) of this title when the construction of access routes are involved. Notices properly filed under this section constitute authorization under Part 8340 of this title (Off-Road Vehicles).

(c) The notice or letter shall include:

(1) Name and mailing address of the mining claimant and operator, if other than the claimant. Any change of operator or in the mailing address of the mining claimant or operator shall be reported promptly to the authorized officer;

(2) When applicable, the name of the mining claim(s), and serial number(s) assigned to the mining claim(s) recorded pursuant to subpart 3833 of this title on which disturbance will likely take place as a result of the operations;

(3) A statement describing the activities proposed and their location in sufficient detail to locate the activities on the ground, and giving the approximate date when operations will start. The statement shall include a description and location of access routes to be constructed and the type of equipment to be used in their construction. Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable, to minimize cut and fill. When the construction of access routes involves slopes which require cuts on the inside edge in excess of 3 feet, the operator may be required to consult with the authorized officer concerning the most appropriate location of the access route prior to commencing operations;

(4) A statement that reclamation of all areas disturbed will be completed to the standard described in § 3809.1-3(d) of this title and that reasonable measures will be taken to prevent unnecessary or undue degradation of the Federal lands during operations.

(d) The following standards govern activities conducted under a notice:

(1) Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable to minimize cut and fill.

(2) All tailings, dumps, deleterious materials or substances, and other waste produced by the operations shall be disposed of so as to prevent unnecessary or undue degradation and in accordance

with applicable Federal and State Laws.

(3) At the earliest feasible time, the operator shall reclaim the area disturbed, except to the extent necessary to preserve evidence of mineralization, by taking reasonable measures to prevent or control on-site and off-site damage of the Federal lands.

(4) Reclamation shall include, but shall not be limited to:

(i) Saving of topsoil for final application after reshaping of disturbed areas have been completed;

(ii) Measures to control erosion, landslides, and water runoff;

(iii) Measures to isolate, remove, or control toxic materials;

(iv) Reshaping the area disturbed, application of the topsoil, and revegetation of disturbed areas, where reasonably practicable; and

(v) Rehabilitation of fisheries and wildlife habitat.

(5) When reclamation of the disturbed area has been completed, except to the extent necessary to preserve evidence of mineralization, the authorized officer shall be notified so that an inspection of the area can be made.

(e) Operations conducted pursuant to this subpart are subject to monitoring by the authorized officer to ensure that operators are conducting operations in a manner which will not cause unnecessary or undue degradation.

(f) Failure of the operator to complete reclamation to the standards described in this subpart may cause the operator to be subject to a notice of noncompliance as described in § 3809.3-2 of this title. [*as amended 1983*]

§ 3809.1-4 Plan of operations—when required.

An approved plan of operations is required prior to commencing:

(a) Operations which exceed the disturbance level (5 acres) described in § 3809.1-3 of this title.

(b) Any operation, except casual use, in the following designated areas:

(1) Lands in the California Desert Conservation Area designated as "controlled" or "limited" use areas by the California Desert Conservation Area plan;

(2) Areas designated for potential addition to, or an actual component of the national wild and scenic river system,

(3) Designated Areas of Critical Environmental Concern;

(4) Areas designated as part of the National Wilderness Preservation System and administered by the Bureau of Land Management;

(5) Areas designated as "closed" to off-road vehicle use as defined in subpart 8340 of this title.

(c) Plans properly filed and approved under this section constitute authorization under Part 8340 of this title (Off-Road Vehicles). [*as amended 1983*]

§ 3809.1-5 Filing and contents of plan of operations.

(a) A plan of operations must be filed in the District Office of the Bureau of Land Management having jurisdiction over the Federal lands in which the claim(s) or project area is located.

(b) No special form is required for filing a plan.

(c) The plan shall include:

(1) The name and mailing address of the operator (and claimant if not the operator). Any change of operator or change in the mailing address shall be promptly reported to the authorized officer;

(2) A map, preferably a topographic map, or sketch showing existing and/or proposed routes of access, aircraft landing areas, or other means of access, and size of each area where surface disturbance will occur;

(3) When applicable, the name of the mining claim(s) and mining claim serial numbers assigned to the mining claim(s) recorded pursuant to subpart 3833 of this title.

g designated areas:
n the California Desert
\rea designated as ''con-
mited'' use areas by the
sert Conservation Area

signated for potential ad-
actual component of the
nd scenic river system,
ed Areas of Critical En-
ncern;
signated as part of the
rness Preservation Sys-
stered by the Bureau of
ent;
signated as ''closed'' to
use as defined in subpart
le.
perly filed and approved
ion constitute authoriza-
8340 of this title (Off-
. [*as amended 1983*]

ing and contents of plan

operations must be filed
)ffice of the Bureau of
ent having jurisdiction
al lands in which the
ect area is located.
al form is required for

shall include:
e and mailing address of
nd claimant if not the
change of operator or
nailing address shall be
ed to the authorized of-

referably a topographic
howing existing and/or
of access, aircraft land-
er means of access, and
a where surface distur-
r;
licable, the name of the
and mining claim serial
d to the mining claim(s)
nt to subpart 3833 of this

(4) Information sufficient to describe or identify the type of operations proposed, how they will be conducted and the period during which the proposed activity will take place;

(5) Measures to be taken to prevent unnecessary or undue degradation and measures to reclaim disturbed areas resulting from the proposed operations, including the standards listed in § 3809.1-3(d) of this title. Where an operator advises the authorized officer that he/she does not have the necessary technical resources to develop such measures the authorized officer will assist the operator in developing such measures. If an operator submits reclamation measures, the authorized officer will ensure that the operator's plan is sufficient to prevent unnecessary or undue degradation. All reclamation measures developed by the operator, or by the authorized officer in conjunction with the operator, shall become a part of the plan of operations.

(6) Measures to be taken during extended periods of nonoperation to maintain the area in a safe and clean manner and to reclaim the land to avoid erosion and other adverse impacts. If not filed at the time of plan submittal, this information shall be filed with the authorized officer whenever the operator anticipates a period of nonoperation.

§3809.1-6 Plan approval.

(a) A proposed plan of operations shall be submitted to the authorized officer, who shall promptly acknowledge receipt thereof to the operator. The authorized officer shall, within 30 days of such receipt, analyze the proposal in the context of the requirement to prevent unnecessary or undue degradation and provide for reasonable reclamation, and shall notify the operator:

(1) That the plan is approved; or

(2) Of any changes in or additions to the plan necessary to meet the requirements of these regulations; or

(3) That the plan is being reviewed, but that a specified amount of time, not to exceed an additional 60 days, is necessary to complete the review, setting forth the circumstances which justify additional time for review. However, days during which the area of operations is inaccessible for inspection shall not be counted when computing the 60 day period; or

(4) That the plan cannot be approved until 30 days after a final environmental statement has been prepared and filed with the Environmental Protection Agency; or

(5) That the plan cannot be approved until the authorized officer has complied with section 106 of the National Historic Preservation Act or section 7 of the Endangered Species Act.

(b) The authorized officer shall consult with the appropriate official of the bureau or agency having surface management responsibilities where such responsibility is not exercised by the Bureau of Land Management. Prior to plan approval the authorized officer shall obtain the concurrence of such appropriate official to the terms and conditions that may be needed to prevent unnecessary or undue degradation.

(c) The authorized officer shall undertake an appropriate level of cultural resource inventory of the area to be disturbed. The inventory shall be completed within the time allowed by these regulations for approval of the plan (30 days). The operator is not required to do the inventory but may hire an archaeologist approved by the Bureau of Land Management in order to complete the inventory more expeditiously. The responsibility for and cost of salvage of cultural resources discovered during the inventory shall be the Federal Government's. The responsibility of avoiding adverse impacts on those cultural resources discovered during the inventory shall be the operator's.

(d) Pending final approval of the plan, the authorized officer shall ap-

prove any operations that may be necessary for timely compliance with requirements of Federal and State laws, subject to any terms and conditions that may be needed to prevent unnecessary or undue degradation.

(e) In the event of a change of operators involving an approved plan of operations, the new operator shall satisfy the requirements of § 3809.1-9 of this title as it relates to bonding.

§ 3809.1-7 Modification of plan.

(a) At any time during operations under an approved plan, the operator on his/her own initiative may modify the plan or the authorized officer may request the operator to do so.

(b) A significant modification of an approved plan must be reviewed and approved by the authorized officer in the same manner as the initial plan.

(c)(1) If, when requested to do so by the authorized officer, the operator does not furnish a proposed modification within a reasonable time, usually 30 days, the authorized officer may recommend to the State Director that the operator be required to submit a proposed modification of the plan. The recommendation of the authorized officer shall be accompanied by a statement setting forth the facts and the reasons for the recommendations.

(2) In acting upon such recommendations the State Director shall determine, within 30 days, whether:

(i) All reasonable measures were taken by the authorized officer at the time the plan was approved to ensure that the proposed operations would not cause unnecessary or undue degradation of the federal land;

(ii) The disturbance from the operations of the plan as approved or from unforeseen circumstances is or may become of such significance that modification of the plan is essential in order to prevent unnecessary or undue degradation; and

(iii) The disturbance can be minimized using reasonable means.

(3) Once the matter has been sent to the State Director, an operator is not required to submit a proposed modification of an approved plan until a determination is made by the State Director. Where the State Director determines that a plan shall be modified, the operator shall timely submit a modified plan to the authorized officer for review and approval.

(4) Operations may continue in accordance with the approved plan until a modified plan is approved, unless the State Director determines that the operations are causing unnecessary or undue degradation to the land. The State Director shall advise the operator of those reasonable measures needed to avoid such degradation and the operator shall immediately take all necessary steps to implement those measures within a reasonable period established by the State Director.

§ 3809.1-8 Existing operations.

(a) Persons conducting operations on the effective date of these regulations, who would be required to submit a notice under § 3809.1-3 or a plan of operations under § 3809.1-4 of this title may continue operations but shall, within:

(1) 30 days submit a notice with required information outlined in § 3809.1-3 of this title for operations where 5 acres or less will be disturbed during a calendar year; or

(2) 120 days submit a plan in those areas identified in § 3809.1-4 of this title. Upon a showing of good cause, the authorized officer may grant an extension of time, not to exceed an additional 180 days, to submit a plan.

(b) Operations may continue according to the submitted plan during its review. If the authorized officer determines that operations are causing unnecessary or undue degradation of the federal lands involved, the authorized

listurbance can be
g reasonable means.
matter has been sent to
tor, an operator is not
nit a proposed modifica-
ved plan until a determi-
by the State Director.
Director determines that
modified, the operator
mit a modified plan to
fficer for review and ap-

ns may continue in
the approved plan until
is approved, unless the
termines that the opera-
g unnecessary or undue
e land. The State Direc-
he operator of those rea-
s needed to avoid such
the operator shall im-
ll necessary steps to im-
easures within a reason-
olished by the State Di-

isting operations.

nducting operations on
e of these regulations,
quired to submit a notice
or a plan of operations
4 of this title may con-
but shall, within:
ubmit a notice with re-
ation outlined in §
is title for operations
less will be disturbed
r year; or
submit a plan in those
in § 3809.1-4 of this
wing of good cause, the
r may grant an exten-
to exceed an additional
mit a plan.
s may continue accord-
tted plan during its re-
thorized officer deter-
ations are causing un-
lue degradation of the
volved, the authorized

officer shall advise the operator of those reasonable measures needed to avoid such degradation, and the operator shall take all necessary steps to implement those measures within a reasonable time recommended by the authorized officer. During the period of an appeal, if any, operations may continue without change, subject to other applicable Federal and State laws.

(c) Upon approval of a plan by the authorized officer, operations shall be conducted in accordance with the approved plan.

§ 3809.1-9 Bonding requirements.

(a) No bond shall be required for operations that constitute casual use (§ 3809.1-2) or that are conducted under a notice (§ 3809.1-3 of this title).

(b) Any operator who conducts operations under an approved plan of operations as described in § 3809.1-5 of this title may, at the discretion of the authorized officer, be required to furnish a bond in an amount specified by the authorized officer. The authorized officer may determine not to require a bond in circumstances where operations would cause only minimal disturbance to the land. In determining the amount of the bond, the authorized officer shall consider the estimated cost of reasonable stabilization and reclamation of areas disturbed. In lieu of the submission of a separate bond, the authorized officer may accept evidence of an existing bond pursuant to State law or regulations for the same area covered by the plan of operations, upon a determination that the coverage would be equivalent to that provided in this section.

(c) In lieu of a bond, the operator may deposit and maintain in a Federal depository account of the United States Treasury, as directed by the authorized officer, cash in an amount equal to the required dollar amount of the bond or negotiable securities of the United States having a market value at the time of deposit of not less than the required dollar amount of the bond.

(d) In place of the individual bond on each separate operation, a blanket bond covering statewide or nationwide operations may be furnished at the option of the operator, if the terms and conditions, as determined by the authorized officer, are sufficient to comply with these regulations.

(e) In the event that an approved plan is modified in accordance with § 3809.1-7 of this title, the authorized officer shall review the initial bond for adequacy and, if necessary, adjust the amount of the bond to conform to the plan as modified.

(f) When all or any portion of the reclamation has been completed in accordance with the approved plan, the operator may notify the authorized officer that such reclamation has occurred and that she/he seeks a reduction in bond or Bureau approval of the adequacy of the reclamation, or both. Upon any such notification, the authorized officer shall promptly inspect the reclaimed area with the operator. The authorized officer shall then notify the operator, in writing, whether the reclamation is acceptable. When the authorized officer has accepted as completed any portion of the reclamation, the authorized officer shall authorize that the bond be reduced proportionally to cover the remaining reclamation to be accomplished.

(g) When a mining claim is patented, the authorized officer shall release the operator from that portion of the performance bond which applies to operations within the boundaries of the patented land. The authorized officer shall release the operator from the remainder of the performance bond, including the portion covering approved means of access outside the boundaries of the mining claim, when the operator has completed acceptable reclamation. However, existing access to patented mining claims, if across Federal lands shall continue to be regulated under the approved plan. The

provisions of this subsection do not apply to patents issued on mining claims within the boundaries of the California Desert Conservation Area (See § 3809.6 of this title).

§ 3809.2 Prevention of unnecessary or undue degradation.

§ 3809.2-1 Environmental assessment.

(a) When an operator files a plan of operations or a significant modification which encompasses land not previously covered by an approved plan, the authorized officer shall make an environmental assessment or a supplement thereto to identify the impacts of the proposed operations on the lands and to determine whether an environmental impact statement is required.

(b) In conjunction with the operator, the authorized officer shall use the environmental assessment to determine the adequacy of mitigating measures and reclamation procedures included in the plan to insure the prevention of unnecessary or undue degradation of the land. If an operator advises the authorized officer the he/she is unable to prepare mitigating measures, the authorized officer, in conjunction with the operator, shall use the environmental assessment as a basis for assisting the operator in developing such measures.

(c) If, as a result of the environmental assessment, the authorized officer determines that there is "substantial public interest" in the plan, the authorized officer shall notify the operator, in writing, that an additional period of time, not to exceed the additional 60 days provided for approval of a plan in § 3809.1-6 of this title, is required to consider public comments on the environmental assessment.

§ 3809.2-2 Other requirements for environmental protection.

All operations, including casual use and operations under either a notice (§ 3809.1-3) or a plan of operations (§ 3809.1-4 of this title), shall be conducted to prevent unnecessary or undue degradation of the Federal lands and shall comply with all pertinent Federal and State laws, including but not limited to the following:

(a) *Air quality*. All operators shall comply with applicable Federal and State air quality standards, including the Clean Air Act (42 U.S.C. 1857 *et seq.*).

(b) *Water quality*. All operators shall comply with applicable Federal and State water quality standards, including the Federal Water Pollution Control Act, as amended (30 U.S.C. 1151 *et seq.*).

(c) *Solid wastes*. All operators shall comply with applicable Federal and State standards for the disposal and treatment of solid wastes, including regulations issued pursuant to the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*). All garbage, refuse or waste shall either be removed from the affected lands or disposed of or treated to minimize, so far as is practicable, its impact on the lands.

(d) *Fisheries, wildlife and plant habitat*. The operator shall take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations.

(3) *Cultural and paleontological resources*. (1) Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building or object on Federal lands.

(2) Operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries

brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.

(3) The Federal Government shall have the responsibility and bear the cost of investigations and salvage of cultural and paleontology values discovered after a plan of operations has been approved, or where a plan is not involved.

(f) *Protection of survey monuments.* To the extent practicable, all operators shall protect all survey monuments, witness corners, reference monuments, bearing trees and line trees against unnecessary or undue destruction, obliteration or damage. If, in the course of operations, any monuments, corners, or accessories are destroyed, obliterated or damaged by such operations, the operator shall immediately report the matter to the authorized officer. The authorized officer shall prescribe, in writing, the requirements for the restoration or reestablishment of monuments, corners, bearing and line trees.

§ 3809.3 General provisions.

§ 3809.3-1 Applicability of State law.

(a) Nothing in this subpart shall be construed to effect a preemption of State laws and regulations relating to the conduct of operations or reclamation on federal lands under the mining laws.

(b) After the publication date of these regulations the Director, Bureau of Land Management, shall conduct a review of State laws and regulations in effect or due to come into effect, relating to unnecessary or undue degradation of lands disturbed by exploration for, or mining of, minerals locatable under the mining laws.

(c) The Director may consult with appropriate representatives of each State to formulate and enter into agreements to provide for a joint Federal-State program for administration and enforcement. The purpose of such agreements is to prevent unnecessary or undue degradation of the federal lands from operations which are conducted under the mining laws, to prevent unnecessary administrative delay and to avoid duplication of administration and enforcement of laws. Such agreements may, whenever possible, provide for State administration and enforcement of such programs.

§ 3809.3-2 Noncompliance.

(a) Failure of an operator to file a notice under § 3809.1-3 of this title or a plan of operations under § 3809.1-4 of this title will subject the operator, at the discretion of the authorized officer, to being served a notice of non-compliance or enjoined from the continuation of such operations by a court order until such time as a notice or plan is filed with the authorized officer. The operator shall also be responsible to reclaim operations conducted without an approved plan of operations or prior to the filing of a required notice.

(b) Failure to reclaim areas disturbed by operations under § 3809.1-3 of this title is a violation of these regulations.

(1) Where an operator is conducting operations covered by § 3809.1-3 (notice) of this title and fails to comply with the provisions of that section or properly conduct reclamation according to standards set forth in § 3809.1-3(d) of this title, a notice of noncompliance shall be served by delivery in person to the operator or his/her authorized agent, or by certified mail addressed to his/her address of record.

(2) Operators conducting operations under an approved plan of operations who fail to follow the approved plan of operations may be subject to a notice of noncompliance. A notice of noncompliance shall be served in the same manner as described in § 3809.3-2(b)(1) above.

(c) All operators who conduct opera-

tions under a notice pursuant to § 3809.1-3 and a plan pursuant to § 3809.1-4 of this title on federal lands without taking the actions specified in a notice of noncompliance within the time specified therein may be enjoined by an appropriate court order from continuing such operations and be liable for damages for such unlawful acts.

(d) A notice of noncompliance shall specify in what respects the operator is failing or has failed to comply with the requirements of applicable regulations, and shall specify the actions which are in violation of the regulations and the actions which shall be taken to correct the noncompliance and the time, not to exceed 30 days, within which corrective action shall be started.

(e) Failure of an operator to take necessary actions on a notice of noncompliance, may constitute justification for requiring the submission of a plan of operations under § 3809.1-5 of this title, and mandatory bonding for subsequent operations which would otherwise be conducted pursuant to a notice under § 3809.1-3 of this title.

§ 3809.3-3 Access.

(a) An operator is entitled to access to his operations consistent with provisions of the mining laws.

(b) Where a notice or a plan of operations is required, it shall specify the location of access routes for operations and other conditions necessary to prevent unnecessary or undue degradation. The authorized officer may require the operator to use existing roads tc minimize the number of access routes, and, if practicable, to construct access roads within a designated transportation or utility corridor. When commercial hauling is involved and the use of an existing road is required, the authorized officer may require the operator to make appropriate arrangements for use and maintenance.

§ 3809.3-4 Fire prevention and control.

The operator shall comply with all applicable Federal and State fire laws and regulations, and shall take all reasonable measures to prevent and suppress fires in the area of operations.

§ 3809.3-5 Maintenance and public safety.

During all operations, the operator shall maintain his structures, equipment, and other facilities in a safe and orderly manner. Hazardous sites or conditions resulting from operations shall be marked by signs, fenced, or otherwise identified to alert the public in accordance with applicable Federal and State laws and regulations.

§ 3809.3-6 Inspection.

The authorized officer may periodically inspect operations to determine if the operator is complying with these regulations. The operator shall permit the authorized officer access for this purpose.

§ 3809.3-7 Periods of non-operation.

All operators shall maintain the site, structures and other facilities of the operations in a safe and clean condition during any non-operating periods. All operators may be required, after an extended period of non-operation for other than seasonal operations, to remove all structures, equipment and other facilities and reclaim the site of operations, unless he/she receives permission, in writing, from the authorized officer to do otherwise.

§ 3809.4 Appeals.

(a) Any operator adversely affected

by a decision of the authorized officer made pursuant to the provisions of this subpart shall have a right of appeal to the State Director, and thereafter to the Board of Land Appeals, Office of Hearings and Appeals, pursuant to Part 4 of this title, if the State Director's decision is adverse to the appellant.

(b) No appeal shall be considered unless it is filed, in writing, in the office of the authorized officer who made the decision from which an appeal is being taken, within 30 days after the date of the decision. A decision of the authorized officer from which an appeal is taken to the State Director shall be effective during the pendency of an appeal. A request for a stay may accompany the appeal.

(c) The appeal to the State Director shall contain:

(1) The name and and mailing address of the appellant.

(2) When applicable, the name of the mining claim(s) and serial number(s) assigned to the mining claims recorded pursuant to subpart 3833 of this title which are subject to the appeal.

(3) A statement of the reasons for the appeal and any arguments the appellant wishes to present which would justify reversal or modification of the decision.

(d) The State Director shall promptly render a decision on the appeal. The decision shall be in writing and shall set forth the reasons for the decision. The decision shall be sent to the appellant by certified mail, return receipt requested.

(e) The decision of the State Director, when adverse to the appellant, may be appealed to the Board of Land Appeals, Office of Hearings and Appeals, pursuant to Part 4 of this title.

(f) Any party, other than the operator, aggrieved by a decision of the authorized officer shall utilize the appeals procedures in Part 4 of this title. The filing of such an appeal shall not stop the authorized officer's decision from being effective.

(g) Neither the decision of the authorized officer nor the State Director shall be construed as final agency action for the purpose of judicial review of that decision.

§ 3809.5 Public availability of information.

(a) Information and data submitted and specifically identified by the operator as containing trade secrets or confidential or privileged commercial or financial information shall not be available for public examination. Other information and data submitted by the operator shall be available for examination by the public at the office of the authorized officer in accordance with the provisions of the Freedom of Information Act.

(b) The determination concerning specific information which may be withheld from public examination shall be made in accordance with the rules in 43 CFR Part 2.

§ 3809.6 Special provisions relating to mining claims patented within the boundaries of the California Desert Conservation Area.

In accordance with section 601(f) of the Federal Land Policy and Management Act of October 21, 1976, all patents issued on mining claims located within the boundaries of the California Desert Conservation Area after the enactment of the Federal Land Policy and Management Act shall be subject to the regulations in this part, including the continuation of a plan of operations and of bonding with respect to the land covered by the patent.

DeCONCINI McDONALD BRAMMER YETWIN & LACY
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

EVO DeCONCINI (1901-1986)

JOHN R. McDONALD
RICHARD M. YETWIN
DINO DeCONCINI
WILLIAM B. HANSON
DAVID C. ANSON
SPENCER A. SMITH
DENISE M. BAINTON
KAREN J. NYGAARD
SUSAN E. MILLER
MARK D. LAMMERS
WAYNE E. YEHLING
J. WM. BRAMMER, JR.
JOHN C. LACY
ROBERT M. STRUSE
JOHN C. RICHARDSON
JAMES A. JUTRY
MICHAEL R. URMAN
DAVID F. GAONA
LUIS A. OCHOA
GARY F. URMAN
FRANCES J. HAYNES
CHRISTINA URIAS

2525 EAST BROADWAY BOULEVARD, SUITE 200
TUCSON, ARIZONA 85716-5303
(602) 322-5000
FAX: (602) 322-5585

2901 NORTH CENTRAL AVENUE, SUITE 1644
PHOENIX, ARIZONA 85012-2736
(602) 241-0100
FAX: (602) 241-0220

March 26, 1990

RECEIVED MAR 2 7 1990

PLEASE REPLY TO TUCSON

Ms. Carole O'Brien
A. F. Budge (Mining) Limited
4301 N. 75th Street
Suite 101
Scottsdale, AZ 85251

Re: **Vulture Mine Property**

Dear Carole:

We have previously discussed the need to place of record the arrangements between A. F. Budge Mining and V.M.P. concerning the Vulture Mine property. The Short Form of the First Amendment to Option and Lease Agreement was designed to accomplish the bulk of the normal notice requirements but inasmuch as Mr. Beall never signed this document I doubt that we could get him to sign the short form today given his attitude. I therefore suggest that the original of the First Amendment to Option and Lease Agreement be recorded. This document incorporates by reference the property from the original lease agreement and so I would therefore suggest that the Exhibit A from the original Option and Lease Agreement be attached to the First Amendment when it is recorded.

The other matter that needs to be taken care of is to provide record indication of the Assignment between A. F. Budge (Mining) Limited and Clearwater Mining Corporation. You may recall that this was done at the time the first dispute arose with Larry Beall that necessitated the filing of an action in Maricopa County Superior Court. If this assignment has not been recorded, it should be.

Please let me know if I can be of any further assistance.

Very truly yours,

John C. Lacy

bpm
0323901125.jcl2.840127

JCL
03-21-90

When recorded, please return to:

A.F. Budge (Mining) Limited
4301 North 75th Street, Suite 105
Scottsdale, AZ 85251-3504

90 281739

ASSIGNMNT (AS)

SHORT FORM ASSIGNMENT AGREEMENT

NOTICE IS HEREBY GIVEN, that by that certain Assignment Agreement

effective as of March 1, 1990 (the "Effective Date"),

A.F. BUDGE (MINING) LIMITED, a Nevada corporation, and its wholly owned subsidiary, CLEARWATER MINING CORPORATION, an Arizona corporation, whose address is 4301 North 75th Street, Suite 101, Scottsdale, Arizona 85251-3504, (collectively referred to therein as "Budge"),

assigned certain rights to

ARIZONA-ONTARIO EXPLORATIONS INC., an Arizona corporation, whose address is 8433 N. Black Canyon Freeway, Suite 158, Phoenix, Arizona 85021, (referred to therein as "AOEI"),

as follows:

1. Grant

By the Assignment Agreement, Budge assigned to AOEI all of its right, title and interest in and under that certain Option and Lease Agreement effective July 1, 1984, by and between V.M.P., Inc., as "Lessor" and A.F. Budge (Mining) Limited, as amended by that certain First Amendment to Option and Lease Agreement effective February 1, 1985, recorded as document number 90-184411 of the Official Records of Maricopa County (the "Lease Agreement" herein), which Lease Agreement grants mineral development rights in certain patented and unpatented mining claims in Maricopa County (the "Property" herein as more particularly described in Exhibit A hereto), EXCLUDING SPECIFICALLY, any and all rights of Budge in the Townsite of Vulture City (including access thereto) as conveyed to Ben F. Dickerson, III, by the Superior Court of Arizona, Maricopa County Cause No. C578525, by that certain Quitclaim Deed to Unclaimed Townsite Lots, dated March 4, 1987, and recorded as document number 87-178337 of the Official Records of Maricopa County. By the terms of the Assignment Agreement, Budge has RESERVED AND EXCEPTED FROM THE FOREGOING GRANT AND RETAINED UNTO ITSELF the right to enter upon the Property for the purpose of undertaking certain reclamation activities upon the Property. Such retained right shall exist for a period not to exceed one year from and after the

Effective Date. By the Assignment Agreement, AOEI accepted the foregoing assignment and agreed to assume all the obligations of Budge under the terms of the Lease Agreement. AOEI also agreed to indemnify and hold Budge harmless from all claims, liabilities, obligations, costs and expenses of any nature whatsoever, including without limitation, reasonable attorneys' fees arising out of any default or asserted default on the part of Budge under the Lease Agreement assigned after the Effective Date; provided, however, that Budge has agreed to indemnify AOEI and hold AOEI harmless from certain matters identified in the Assignment Agreement.

2. Right of Budge to Obtain Reassignment

If, within four (4) years from and after the Effective Date, AOEI, its successors or assigns, elects to terminate or otherwise abandon the Lease Agreement, the Lease Agreement requires AOEI to give notice of such intention to Budge not later than thirty days prior to such contemplated action, and Budge thereafter has the right during such 30-day period, within which to notify AOEI of its desire to receive a reassignment of the Lease Agreement without further consideration to AOEI, its successors or assigns. Upon any election to receive a reassignment, AOEI is required to promptly reassign the Lease Agreement to Budge without warranties except as to any claim of title by and through AOEI.

3. Copies of the Agreement

Copies of the Assignment Agreement are in the possession of the parties at the addresses indicated in the recitals.

SIGNED, effective as of the date recited above.

ARIZONA ONTARIO EXPLORATIONS INC.

By _____
Stanley W. Holmes, President

A. F. BUDGE (MINING) LIMITED

By _____
Anthony F. Budge, President

CLEARWATER MINING CORPORATION

By _____
Anthony F. Budge, President

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 12th day of April, 1990, by Stanley W. Holmes, the President of Arizona Ontario Explorations Inc., an Arizona corporation, for and on behalf of the corporation.

OFFICIAL SEAL
CAROLE A. O'BRIEN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires April 14, 1991

Carole A. O'Brien
Notary Public

My commission expires:

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 14th day of April, 1990, by Anthony F. Budge, the President of A. F. Budge (Mining) Limited, a Nevada corporation, for and on behalf of the corporation.

OFFICIAL SEAL
CAROLE A. O'BRIEN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires April 14, 1991

Carole A. O'Brien
Notary Public

My commission expires:

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 14th day of April, 1990, by Anthony F. Budge, the President of Clearwater Mining Corporation, an Arizona corporation, for and on behalf of the corporation.

OFFICIAL SEAL
CAROLE A. O'BRIEN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires April 14, 1991

Carole A. O'Brien
Notary Public

My commission expires:

90 281739

Exhibit A

The "Property" consists of those certain unpatented lode mining claims situated in the Vulture Mining District, Maricopa County, Arizona, the names of which and the place of record of the locations notices thereof in the official records of the county recorder and the authorized office of the Bureau of Land Management are as follows:

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Vulture	# 1	15828	79-80	160432
	# 2	15828	81-82	160433
	# 3	15828	83-84	160434
	# 4	15828	85-86	160435
	# 5	15828	87-88	160436
	# 6	15828	89-90	160437
	# 7	15828	91-92	160438
	# 8	15828	93-94	160439
	# 9	15828	95-96	160440
	# 10	15828	97-98	160441
	# 11	15828	99-100	160442
	# 12	15828	101-102	160443
	# 13	15828	103-104	160444
	# 14	15828	105-106	160445
	# 15	15828	107-108	160446
	# 16	15828	109-110	160447
	# 17	15828	111-112	160448
	# 18	15828	113-114	160449
	# 19	15828	115-116	160450
	# 20	15828	117-118	160451
	# 25	15828	119-120	160452
	# 26	15828	121-122	160453
	# 27	15828	123-124	160454
	# 28	15828	125-126	160455
	# 29	15828	127-128	160456
	# 30	15828	129-130	160457
	# 31	15828	131-132	160458
	# 32	15828	133-134	160459
	# 33	15828	135-136	160460
	# 34	15828	137-138	160461
	# 35	15828	139-140	160462
	# 36	15828	141-142	160463
	# 37	15828	143-144	160464
	# 38	15828	145-146	160465
	# 39	15828	147-148	160466
	# 40	15828	149-150	160467

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Vulture	# 41	15828	151-152	160468
	# 42	15828	153-154	160469
	# 43	15828	155-156	160470
	# 44	15828	157-158	160471
	# 45	15828	159-160	160472
	# 46	15828	161-162	160473
	# 47	15828	163-164	160474
	# 48	15828	165-166	160475
	# 49	15828	167-168	160476
	# 50	15828	169-170	160477
	# 51	15828	171-172	160478
	# 52	15828	173-174	160479
	# 53	15828	175-176	160480
	# 54	15828	177-178	160481
	# 55	15828	179-180	160482
	# 56	15828	181-182	160483
	# 57	15828	183-184	160484
	# 58	15828	185-186	160485
	# 59	15828	187-188	160486
	# 60	15828	189-190	160487
	# 61	15828	191-192	160488
	# 62	15828	193-194	160489
	# 63	15828	195-196	160490
	# 64	15828	197-198	160491
	# 65	15828	199-200	160492
	# 66	15828	201-202	160493
	# 67	15828	203-204	160494
	# 68	15828	205-206	160495
	# 69	15828	207-208	160496
	# 70	15828	209-210	160497
	# 71	15828	211-212	160498
	# 72	15828	213-214	160499
	# 73	15828	215-216	160500
	# 74	15828	217-218	160501
	# 75	15828	219-220	160502
	# 76	15828	221-222	160503
	# 77	15828	223-224	160504
	# 78	15828	225-226	160505
	# 79	15828	227-228	160506
	# 80	15828	229-230	160507
	# 84	15828	239-240	160512
	# 85	15828	241-242	160513
	# 86	15828	243-244	160514
	# 87	15828	245-246	160515
	# 88	15828	247-248	160516
	# 89	15828	249-250	160517
	# 90A	15828	251-252	160518

90 281739

Name of Claim	Maricopa County Records Book	Page	BLM Number Serial Number AMC
Vulture # 91	15828	253-254	160519
# 92	15828	255-256	160520
# 93	15828	257-258	160521
# 94	15828	259-260	160522
# 95	15828	261-262	160523
# 96	15828	263-264	160524
# 97	15828	265-266	160525
# 98	15828	267-268	160526
# 99	15828	269-270	160527
# 100	15828	271-272	160528
# 101	15828	273-274	160529
# 102	15828	275-276	160530
# 103	15828	277-278	160531
# 104	15828	279-280	160532
# 105	15828	281-282	160533
# 106	15828	283-284	160534
# 107	15828	285-286	160535
# 108	15828	287-288	160536
# 109	15828	289-290	160537
# 110	15828	291-292	160538
# 111	15828	293-294	160539
# 112	15828	295-296	160540
# 113	15828	297-298	160541
# 114	15828	301-302	160542
# 115	15828	299-300	160543
# 116	15828	303-304	160544
# 117	15828	305-306	160545
# 118	15828	307-308	160546
# 119	15828	309-310	160547
# 120	15828	311-312	160548
# 121	15828	313-314	160549
# 122	15828	315-316	160550
# 123	15828	317-318	160551
# 124	15828	319-320	160552
# 125	15828	321-322	160553
# 126	15828	323-324	160554
# 127	15828	325-326	160555
# 128	15828	327-328	160556
# 129	15828	329-330	160557
# 130	15828	331-332	160558
# 131	15828	333-334	160559
# 132	15828	335-336	160560
# 133	15828	337-338	160561
# 134	15828	339-340	160562
# 135	15828	341-342	160563
# 136	15828	343-344	160564
# 137	15828	345-346	160565
# 138	15828	347-348	160566

90 281739

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Vulture	# 139	15828	349-350	160567
	# 140	15828	351-352	160568
	# 141	15828	353-354	160569
	# 142	15828	355-356	160570
	# 143	15828	357-358	160571
	# 144	15828	359-360	160572
	# 145	15828	361-362	160573
	# 146	15828	363-364	160574
	# 147	15828	365-366	160575
	# 148	15828	367-368	160576
	# 149	15828	369-370	160577
	# 150	15828	371-372	160578
	# 151	15828	373-374	160579
	# 152	15828	375-376	160580
	# 153	15828	377-378	160581
	# 154	15828	379-380	160582
	# 155	15828	381-382	160583
	# 156	15828	383-384	160584
	# 157	15828	385-386	160585
	# 158	15828	387-388	160586
	# 159	15828	389-390	160587
	# 160	15828	391-392	160588
	# 161	15828	393-394	160589
	# 162	15828	395-396	160590
	# 163	15828	397-398	160591
	# 164	15828	399-400	160592
	# 165	15828	401-402	160593
	# 166	15828	403-404	160594
	# 167	15828	405-406	160595
	# 168	15828	407-408	160596
	# 169	15828	409-410	160597
	# 170	15828	411-412	160598
	# 171	15828	413-414	160599
	# 172	15828	415-416	160600
	# 173	15828	417-418	160601
	# 174	15828	419-420	160602
Desert	# 1A	15828	475-476	160603
	# 2	15828	477-478	160604
	# 3	15828	479-480	160605
	# 4	15828	481-482	160606
	# 5A	15828	483-484	160607
	# 6	15828	485-486	160608
	# 7	15828	487-488	160609

90 281739

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Desert	# 8A	15828	489-490	160610
	# 9A	15828	491-492	160611
	# 10	15828	493-494	160612
	# 11	15828	495-496	160613
	# 12	15828	497-498	160614
	# 13	15828	499-500	160615
	# 14	15828	501-502	160616
	# 15	15828	503-504	160617
	# 16	15828	505-506	160618
	# 17	15828	507-508	160619
	# 18	15828	509-510	160620
	# 19	15828	511-512	160621
	# 20	15828	513-514	160622
	# 21	15828	515-516	160623
	# 22	15828	517-518	160624
	# 23	15828	519-520	160625
	# 24	15828	521-522	160626
	# 25	15828	523-524	160627
	# 26	15828	525-526	160628
	# 27	15828	527-528	160629
	# 28	15828	529-530	160630
	# 29	15828	531-532	160631
	# 30	15828	533-534	160632
	# 31	15828	535-536	160633
	# 32	15828	537-538	160634
	# 33	15828	539-540	160635
	# 34	15828	541-542	160636
	# 35	15828	543-544	160637
	# 36	15828	545-546	160638
	# 37	15828	547-548	160639
	# 38	15828	549-550	160640
	# 39	15828	551-552	160641
	# 40	15828	553-554	160642
	# 41	15828	555-556	160643
	# 42	15828	557-558	160644
	# 43	15828	559-560	160645
	# 44	15828	561-562	160646
	# 45	15828	563-564	160647
	# 46	15828	565-566	160648
	# 47	15828	567-568	160649
	# 48	15828	569-570	160650
	# 49	15828	571-572	160651
	# 50	15828	573-574	160652
	# 51	15828	575-576	160653

90 281739

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Desert	# 52	15828	577-578	160654
	# 53	15828	579-580	160655
	# 54	15828	581-582	160656
	# 55	15828	583-584	160657
	# 56	15828	585-586	160658
	# 57	15828	587-588	160659
	# 58	15828	589-590	160660
	# 59	15828	591-592	160661
	# 60	15828	593-594	160662
	# 61	15828	595-596	160663
	# 62	15828	597-598	160664
	# 63	15828	599-600	160665
	# 64	15828	601-602	160666
	# 65	15828	603-604	160667
	# 66	15828	605-606	160668
	# 67	15828	607-608	160669
	# 68	15828	609-610	160670
	# 69	15828	611-612	160671
	# 70	15828	613-614	160672
	# 71	15828	615-616	160673
	# 72	15828	617-618	160674
	# 73	15828	619-620	160675
	# 74	15828	621-622	160676
	# 75	15828	623-624	160677
	# 76	15828	625-626	160678
	# 77	15828	627-628	160679
	# 78	15828	629-630	160680
	# 79	15828	631-632	160681
	# 80	15828	633-634	160682
	# 81	15828	635-636	160683
	# 82	15828	637-638	160684
	# 83	15828	639-640	160685
	# 84	15828	641-642	160686
	# 85	15828	643-644	160687
	# 86	15828	645-646	160688
	# 87	15828	647-648	160689
	# 88	15828	649-650	160690
	# 89	15828	651-652	160691
	# 90	15828	653-654	160692
	# 91	15828	655-656	160693
	# 92	15828	657-658	160694
	# 93	15828	659-660	160695
	# 94	15828	661-662	160696
	# 95	15828	663-664	160697
	# 96	15828	665-666	160698
	# 97	15828	667-668	160699
	# 98	15828	669-670	160700
	# 99	15828	671-672	160701

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Desert	# 100	15828	673-674	160702
	# 101	15828	675-676	160703
	# 102	15828	677-678	160704
	# 103	15828	679-680	160705
	# 104	15828	681-682	160706
	# 105	15828	683-684	160707
	# 106	15828	685-686	160708
	# 107	15828	687-688	160709
	# 108	15828	689-690	160720
	# 109	15828	691-692	160711
	# 110	15828	693-694	160712
	# 111	15828	695-696	160713
	# 112	15828	697-698	160714
	# 113	15828	699-700	160715
	# 114	15828	701-702	160716
	# 115	15828	703-704	160717
	# 116	15828	705-706	160718
	# 117	15828	707-708	160719
	# 118	15828	709-710	160720
	# 119	15828	711-712	160721
	# 120	15828	713-714	160722
	# 121	15828	715-716	160723
	# 122	15828	717-718	160724
	# 123	15828	719-720	160725
	# 124	15828	721-722	160726
	# 125	15828	723-724	160727
	# 126	15828	725-726	160728
	# 127	15828	727-728	160729
	# 128	15828	729-730	160730
	# 129	15828	731-732	160731
	# 130	15828	733-734	160732
	# 131	15828	735-736	160733
	# 132	15828	737-738	160734
	# 133	15828	739-740	160735
	# 134	15828	741-742	160736
	# 135	15828	743-744	160737
	# 136	15828	745-746	160738
	# 137	15828	747-748	160739
	# 138	15828	749-750	160740
	# 139	15828	751-752	160741
	# 140	15828	753-754	160742
	# 141	15828	755-756	160743
	# 142	15828	757-758	160744
	# 143	15828	759-760	160745
	# 144	15828	761-762	160746
	# 145	15828	763-764	160747

90 281739

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Desert	# 146	15828	765-766	160748
	# 147	15828	767-768	160749
	# 148	15828	769-770	160750
	# 149	15828	771-772	160751
	# 150	15828	773-774	160752
	# 151	15828	775-776	160753
	# 152	15828	777-778	160754
	# 153	15828	779-780	160755
	# 154	15828	781-782	160756
	# 155	15828	783-784	160757
B-lan	1	15952	600-601	167064
	2	15952	602-603	167065
	3	15952	604-605	167066
	4	15952	606-607	167067
	5	15952	608-609	167068
	6	15952	610-611	167069
	7	15952	612-613	167070
	8	15952	614-615	167071
	9	15952	616-617	167072
	10	15952	618-619	167073
	11	15952	620-621	167074
	12	15952	622-623	167075
	13	15952	624-625	167076
	14	15952	626-627	167077
	15	15952	628-629	167078
	16	15952	630-631	167079
	17	15952	632-633	167080
	18	15952	634-635	167081
	19	15952	636-637	167082
	20	15952	638-639	167083
	21	15952	640-641	167084
	22	16260	516-517	170741
	23	16260	514-515	170742
Zen	1	15952	544-545	167085
	2	15952	546-547	167086
	3	15952	548-549	167087
	4	15952	550-551	167088
	5	15952	552-553	167089
	6	15952	554-555	167090
	7	15952	556-557	167091

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
Zen	8	15952	558-559	167092
	9	15952	560-561	167093
	10	15952	562-563	167094
	11	15952	564-565	167095
	12	15952	566-567	167096
	13	15952	568-569	167097
	14	15952	570-571	167098
	15	15952	572-573	167099
	16	15952	574-575	167100
	17	15952	576-577	167101
	18	15952	578-579	167102
	19	15952	580-581	167103
	20	15952	582-583	167104
	21	15952	584-585	167105
A-lan	1	15952	451-452	167034
	2	15952	453	167035
	3	15952	455	167036
	4	15952	457	167037
	5	15952	459	167038
	6	16025	518	170729
	7	16025	520	170730
	8	15952	461-462	167039
	9	15952	463	167040
	10	15952	465	167041
	11	15952	467	167042
	12	15952	469	167043
	13	16025	522	170731
	14	16025	524	170732
	15	15952	471-472	167044
	16	15952	473	167045
	17	15952	475	167046
	18	15952	477	167047
	19	15952	479	167048
	20	16025	526	170733
	21	16025	528	170734
	22	15952	481-482	167049
	23	15952	483	167050
	24	15952	485	167051
	25	15952	487	167052
	26	15952	489	167053
	27	16025	530	170735
	28	16025	532	170736
	29	15952	491-492	167054

90 281739

Name of Claim		Maricopa County Records Book	Page	BLM Number Serial Number AMC
A-lan	30	15952	493	167055
	31	15952	495	167056
	32	15952	497	167057
	33	15952	499	167058
	34	16025	534	170737
	35	16025	536	170738
	36	15952	501-502	167059
	37	15952	503	167060
	38	15952	505	167061
	39	15952	507	167062
	40	15952	509	167063
	41	16025	538	170739
	42	16025	540	170740
Vulture Annex # 1				246516
Vulture Annex # 2				246517

When recorded, please return to:
A.F. Budge (Mining) Limited
4301 North 75th Street
Scottsdale, AZ 85251

AGREEMENT (XG)

FIRST AMENDMENT TO OPTION AND LEASE AGREEMENT

BY THIS FIRST AMENDMENT TO OPTION AND LEASE AGREEMENT

effective February 1, 1985,

by and between V. M. P., Inc., an Arizona Corporation, whose address is Box 20202, Wickenburg, Arizona 85358 ("Lessor" herein),

and

90 184411

A. F. BUDGE (MINING) LIMITED, a registered corporation under the laws of England, whose address in West Carr Road, Retford, Nottinghamshire, England DN22 7SW ("Budge"),

the Lessor and Budge, in consideration of mutual promises and obligations, have modified their Option and Lease Agreement entered into effective July 1, 1984 (the "Agreement"), as follows:

1. Exercise of Option

By this Amendment Budge has exercised its option to lease the Property and the Agreement hereafter constitute a lease of the Property under the terms of the Agreement as modified by this Amendment.

2. Term

The provisions of Section 3 of the Agreement are hereby deleted and the following substituted therefor:

Unless sooner terminated under the termination provisions of the Agreement, this Amendment shall be for a term that shall remain in force for so long as Budge makes the payments specified in Section 3 hereinafter contained and performs annual work as required by subsection f(1) of Section 6.

Once production commences, the lease shall remain in force so long as Leased Substances are continuously produced from the Property. The term may be extended by reasons of force majeure, as specified in Section 11 of the Agreement. Operations shall be deemed continuous as long as mining, processing or marketing operations do not cease for a period of more than ninety (90) consecutive days or if the Property does not produce Three Hundred Fifty Thousand Dollars ($350,000.00) in gross sales or stockpiled values of Leased Substances.

3. Payments to Lessor

Subsection a of Section 4 is hereby deleted; subsection b of Section 4 is hereby deleted and the following substituted

Recorded in official records of Maricopa County, Arizona
DATE APR 26 '90 -2 00 FEE 9 PGS 4
HELEN PURCELL, COUNTY RECORDER TB

therefor, and a new subsection g of Section 4 is hereby added as follows:

b. Advance Minimum Royalty - Budge shall pay Lessor an Advance Minimum Royalty based on the average Handy and Harmon quoted buying price for industrial gold bullion for the two-month period preceding the due date of the applicable payment as published in the Wall Street Journal. The amount payable shall be calculated based on the following scale:

90 184411

H&H Price/Ounce	Monthly Payment
Less than $266.99	$2,500.00
$267.00 to $299.99	$3,000.00
$300.00 to $333.99	$3,500.00
$334.00 to $366.99	$4,000.00
$367.00 to $399.99	$4,500.00
$400.00 to $433.99	$5,000.00
$434.00 to $466.99	$5,500.00
$467.00 and above	$6,000.00

Such Advance Minimum Royalty payments shall be payable monthly in advance on or before the fifth day of the month and shall be a credit insofar as they will go toward any monies due Lessor under the provisions of subsection c of this Section 4.

g. Production Bonus - If Budge elects to commence mineral production on the Property, Lessor shall be paid a one-time bonus of Seventy-Five Thousand Dollars ($75,000.00). The decision to commence production shall occur when Budge commits to the expenditure of funds for a full-scale development of the Property based on the conclusions of a feasibility study and shall not include a pilot plant, bulk sampling or other large volume metallurgical or mine testing. The production bonus shall be paid on or before thirty (30) days after Budge's announcement to its stockholders that production will commence.

4. Notice

The address for duplicate notices to Budge is hereby changed to DMEA Ltd., 7340 E. Shoeman Lane, Suite 111 "B" (E), Scottsdale, Arizona 85251.

5. Ratification

Except as specifically modified herein, the Agreement remains in full force and effect.

SIGNED, effective as of the date recited above.

LESSOR:

V.M.P., INC.

By: _____

Larry W. Beal, President

BUDGE:

90 184411

A.F. BUDGE (MINING) LIMITED

By: _____

A.F. Budge, Chairman

UNITED KINGDOM)
) ss.
)

Before me, the undersigned officer, personally appeared A. F. Budge, known to me to be the Chairman of A. F. Budge (Mining) Limited, a registered corporation under the laws of England, this 15th day of April, 1985, and acknowledged that he executed the foregoing document for and on behalf of the corporation with full authority to do so. 90 184411

Notary Public
Title:

STATE OF ARIZONA)
) ss.
County of Maricopa)

The foregoing instrument was acknowledged before me this 8th day of April, 1985, by Larry W. Beal, the President of V. M. P., Inc., an Arizona corporation, for and on behalf of the corporation.

Carole A. O'Brien
Notary Public

My commission expires:
My Commission Expires April 14, 1987

Form 1370-41
(March 1984)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIPT AND ACCOUNTING ADVICE

NO. 1693525

Subject: AFFIDAVIT OF LABOR (562)

SAF/AZ 12-26-89 0 43 12 279.00
12-26-89 1 43 12 20.00

Applicant: A.F. BUDGE MINING, LTD.
4301 N. 75TH ST., STE. 101
SCOTTSDALE, AZ 85251-3504

Remitter: SAME - CKS #4894 & 4895
CASH $20.00

Assignor:

SERIAL NO.
AMC #69307 ET AL

REFER TO THE ABOVE CASE SERIAL NUMBER IN ALL CORRESPONDENCE. PLEASE INFORM THIS OFFICE OF ANY CHANGE IN ADDRESS.

NOTE: This notice is a receipt for monies paid the United States. If these monies are for required fees in connection with your application to lease, purchase, enter, or otherwise acquire an interest in public lands or resources, this receipt is not an authorization to utilize the land applied for and it does not convey any right, title, or interest in the land for which application is made.

RECEIPT

AFFIDAVIT OF PERFORMANCE OF ANNUAL LABOR

STATE OF ARIZONA)
) ss.
County of Maricopa)

RONALD R. SHORT, being duly sworn, upon his oath states as follows:

1. He is a citizen of the United States, more than eighteen (18) years of age, and is personally acquainted with the 460 unpatented lode and placer mining claims situated in the Vulture Mining District, Maricopa County, Arizona, the names of which are indicated in Exhibit "A" attached hereto (the "Claims"), which exhibit also includes the location of said claims together with the serial number assigned to the Claims by the Arizona State Office of the Bureau of Land Management and/or the Recordation Number recorded in the offical records of Maricopa County, Arizona.

2. This Affidavit is made for, on behalf of, and at the direction of A.F. BUDGE (MINING) LIMITED, a Nevada corporation, the Lessee of the Claims from V.M.P., Inc., an Arizona corporation, whose address is c/o Larry W. Beal, 1414 E. Purdue, Phoenix, Arizona, 85020, the owner of such Claims.

3. The location notices of the Claims are posted within Sections 24, 25, 26, 27, 34, 35 and 36, Township 6 North, Range 6 West; Sections 16, 17, 19, 20, 21, 28, 29, 30, 31 and 32, Township 6 North, Range 5 West; Sections 1, 2 and 12, Township 5 North, Range 5 West, G&SR Meridian, Maricopa County, Arizona, and the Claims form a contiguous block.

4. Between the 1st day of September, 1988, and the 1st day of September, 1989, not less than FIFTY THOUSAND DOLLARS ($50,000.00) work of work and improvements were done and performed upon or for the benefit of each of the Claims, not including the location work of the Claims.

5. Such work and improvements consisted of a program of drilling and sampling and supervision thereof.

(a) The drilling program was conducted by SDS Drilling Company of Reno, Nevada. A total of 1,700 feet were drilled and core recovered from 2 holes, at a cost of $45,077. The drilling program was supervised by James R. Bosco, a consulting geologist from Marquette, Michigan. Professional fees paid to Mr. Bosco for this supervision amounted to $6,720.

6. All of the above work and improvements were performed by or at the expense of A.F. BUDGE (MINING) LIMITED, the Lessee of the Claims from the owner thereof for the purpose of complying with the laws of the United States pertaining to assessment or annual work.

Ronald R. Short

Subscribed and sworn before me this 19th day of December, 1989, by Ronald R. Short

Carole A. O'Brien
Notary Public

OFFICIAL SEAL
CAROLE A. O'BRIEN
NOTARY PUBLIC - ARIZONA
MARICOPA COUNTY
My Comm. Expires April 14, 1991

Unpatented Claim Name	Lode Number	Mining BLM Number Serial Number AMC	Claims Docket Book	Page
Vulture	# 1	246347	15828	79-80
	# 2	246348	15828	81-82
	# 3	246349	15828	83-84
	# 4	246350	15828	85-86
	# 5	246351	15828	87-88
	# 6	246352	15828	89-90
	# 7	246353	15828	91-92
	# 8	246354	15828	93-94
	# 9	246355	15828	95-96
	# 10	246356	15828	97-98
	# 11	246357	15828	99-100
	# 12	246358	15828	101-102
	# 13	246359	15828	103-104
	# 14	246360	15828	105-106
	# 15	246361	15828	107-108
	# 16	246362	15828	109-110
	# 17	246363	15828	111-112
	# 18	246364	15828	113-114
	# 19	246365	15828	115-116
	# 20	246366	15828	117-118
	# 25	246367	15828	119-120
	# 26	246368	15828	121-122
	# 27	246369	15828	123-124
	# 28	246370	15828	125-126
	# 29	246371	15828	127-128
	# 30	246372	15828	129-130
	# 31	246373	15828	131-132
	# 32	246374	15828	133-134
	# 33	246375	15828	135-136
	# 34	246376	15828	137-138
	# 35	246377	15828	139-140
	# 36	246378	15828	141-142
	# 37	246379	15828	143-144
	# 38	246380	15828	145-146
	# 39	246381	15828	147-148
	# 40	246382	15828	149-150
	# 41	246383	15828	151-152
	# 42	246384	15828	153-154
	# 43	246385	15828	155-156
	# 44	246386	15828	157-158
	# 45	246387	15828	159-160

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 46	246388	15828	161-162
	# 47	246389	15828	163-164
	# 48	246390	15828	165-166
	# 49	246391	15828	167-168
	# 50	246392	15828	169-170
	# 51	246393	15828	171-172
	# 52	246394	15828	173-174
	# 53	246395	15828	175-176
	# 54	246396	15828	177-178
	# 55	246397	15828	179-180
	# 56	246398	15828	181-182
	# 57	246399	15828	183-184
	# 58	246400	15828	185-186
	# 59	246401	15828	187-188
	# 60	246402	15828	189-190
	# 61	246403	15828	191-192
	# 62	246404	15828	193-194
	# 63	246405	15828	195-196
	# 64	246406	15828	197-198
	# 65	246407	15828	199-200
	# 66	246408	15828	201-202
	# 67	246409	15828	203-204
	# 68	246410	15828	205-206
	# 69	246411	15828	207-208
	# 70	246412	15828	209-210
	# 71	246413	15828	211-212
	# 72	246414	15828	213-214
	# 73	246415	15828	215-216
	# 74	246416	15828	217-218
	# 75	246417	15828	219-220
	# 76	246418	15828	221-222
	# 77	246419	15828	223-224
	# 78	246420	15828	225-226
	# 79	246421	15828	227-228
	# 80	246422	15828	229-230
	# 81	246423	15828	231-232
	# 81A	246528	15828	233-234
	# 82	246424	15828	235-236
	# 83	246425	15828	237-238
	# 84	246426	15828	239-240
	# 85	246427	15828	241-242
	# 86	246428	15828	243-244
	# 87	246429	15828	245-246
	# 88	246430	15828	247-248
	# 89	246431	15828	249-250
	# 90A	246529	15828	251-252

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 91	246432	15828	253-254
	# 92	246433	15828	255-256
	# 93	246434	15828	257-258
	# 94	246435	15828	259-260
	# 95	246436	15828	261-262
	# 96	246437	15828	263-264
	# 97	246438	15828	265-266
	# 98	246439	15828	267-268
	# 99	246440	15828	269-270
	# 100	246441	15828	271-272
	# 101	246442	15828	273-274
	# 102	246443	15828	275-276
	# 103	246444	15828	277-278
	# 104	246445	15828	279-280
	# 105	246446	15828	281-282
	# 106	246447	15828	283-284
	# 107	246448	15828	285-286
	# 108	246449	15828	287-288
	# 109	246450	15828	289-290
	# 110	246451	15828	291-292
	# 111	246452	15828	293-294
	# 112	246453	15828	295-296
	# 113	246454	15828	297-298
	# 114	246455	15828	301-302
	# 115	246456	15828	299-300
	# 116	246457	15828	303-304
	# 117	246458	15828	305-306
	# 118	246459	15828	307-308
	# 119	246460	15828	309-310
	# 120	246461	15828	311-312
	# 121	246462	15828	313-314
	# 122	246463	15828	315-316
	# 123	246464	15828	317-318
	# 124	246465	15828	319-320
	# 125	246466	15828	321-322
	# 126	246467	15828	323-324
	# 127	246468	15828	325-326
	# 128	246469	15828	327-328
	# 129	246470	15828	329-330
	# 130	246471	15828	331-332
	# 131	246472	15828	333-334
	# 132	246473	15828	335-336
	# 133	246474	15828	337-338
	# 134	246475	15828	339-340
	# 135	246476	15828	341-342
	# 136	246477	15828	343-344
	# 137	246478	15828	345-346
	# 138	246479	15828	347-348

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Vulture	# 139	246480	15828	349-350
	# 140	246481	15828	351-352
	# 141	246482	15828	353-354
	# 142	246483	15828	355-356
	# 143	246484	15828	357-358
	# 144	246485	15828	359-360
	# 145	246486	15828	361-362
	# 146	246487	15828	363-364
	# 147	246488	15828	365-366
	# 148	246489	15828	367-368
	# 149	246490	15828	369-370
	# 150	246491	15828	371-372
	# 151	246492	15828	373-374
	# 152	246493	15828	375-376
	# 153	246494	15828	377-378
	# 154	246495	15828	379-380
	# 155	246496	15828	381-382
	# 156	246497	15828	383-384
	# 157	246498	15828	385-386
	# 158	246499	15828	387-388
	# 159	246500	15828	389-390
	# 160	246501	15828	391-392
	# 161	246502	15828	393-394
	# 162	246503	15828	395-396
	# 163	246504	15828	397-398
	# 164	246505	15828	399-400
	# 165	246506	15828	401-402
	# 166	246507	15828	403-404
	# 167	246508	15828	405-406
	# 168	246509	15828	407-408
	# 169	246510	15828	409-410
	# 170	246511	15828	411-412
	# 171	246512	15828	413-414
	# 172	246513	15828	415-416
	# 173	246514	15828	417-418
	# 174	246515	15828	419-420
Desert	# 1A	246524	15828	475-476
	# 2	246196	15828	477-478
	# 3	246197	15828	479-480
	# 4	246198	15828	481-482
	# 5A	246525	15828	483-484
	# 6	246199	15828	485-486
	# 7	246200	15828	487-488

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 8A	246526	15828	489-490
	# 9A	246527	15828	491-492
	# 10	246201	15828	493-494
	# 11	246202	15828	495-496
	# 12	246203	15828	497-498
	# 13	246204	15828	499-500
	# 14	246205	15828	501-502
	# 15	246206	15828	503-504
	# 16	246207	15828	505-506
	# 17	246208	15828	507-508
	# 18	246209	15828	509-510
	# 19	246210	15828	511-512
	# 20	246211	15828	513-514
	# 21	246212	15828	515-516
	# 22	246213	15828	517-518
	# 23	246214	15828	519-520
	# 24	246215	15828	521-522
	# 25	246216	15828	523-524
	# 26	246217	15828	525-526
	# 27	246218	15828	527-528
	# 28	246219	15828	529-530
	# 29	246220	15828	531-532
	# 30	246221	15828	533-534
	# 31	246222	15828	535-536
	# 32	246223	15828	537-538
	# 33	246224	15828	539-540
	# 34	246225	15828	541-542
	# 35	246226	15828	543-544
	# 36	246227	15828	545-546
	# 37	246228	15828	547-548
	# 38	246229	15828	549-550
	# 39	246230	15828	551-552
	# 40	246231	15828	553-554
	# 41	246232	15828	555-556
	# 42	246233	15828	557-558
	# 43	246234	15828	559-560
	# 44	246235	15828	561-562
	# 45	246236	15828	563-564
	# 46	246237	15828	565-566
	# 47	246238	15828	567-568
	# 48	246239	15828	569-570
	# 49	246240	15828	571-572
	# 50	246241	15828	573-574
	# 51	246242	15828	575-576

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 52	246243	15828	577-578
	# 53	246244	15828	579-580
	# 54	246245	15828	581-582
	# 55	246246	15828	583-584
	# 56	246247	15828	585-586
	# 57	246248	15828	587-588
	# 58	246249	15828	589-590
	# 59	246250	15828	591-592
	# 60	246251	15828	593-594
	# 61	246252	15828	595-596
	# 62	246253	15828	597-598
	# 63	246254	15828	599-600
	# 64	246255	15828	601-602
	# 65	246256	15828	603-604
	# 66	246257	15828	605-606
	# 67	246258	15828	607-608
	# 68	246259	15828	609-610
	# 69	246260	15828	611-612
	# 70	246261	15828	613-614
	# 71	246262	15828	615-616
	# 72	246263	15828	617-618
	# 73	246264	15828	619-620
	# 74	246265	15828	621-622
	# 75	246266	15828	623-624
	# 76	246267	15828	625-626
	# 77	246268	15828	627-628
	# 78	246269	15828	629-630
	# 79	246270	15828	631-632
	# 80	246271	15828	633-634
	# 81	246272	15828	635-636
	# 82	246273	15828	637-638
	# 83	246274	15828	639-640
	# 84	246275	15828	641-642
	# 85	246276	15828	643-644
	# 86	246277	15828	645-646
	# 87	246278	15828	647-648
	# 88	246279	15828	649-650
	# 89	246280	15828	651-652
	# 90	246281	15828	653-654
	# 91	246282	15828	655-656
	# 92	246283	15828	657-658
	# 93	246284	15828	659-660
	# 94	246285	15828	661-662
	# 95	246286	15828	663-664
	# 96	246287	15828	665-666
	# 97	246288	15828	667-668
	# 98	246289	15828	669-670
	# 99	246290	15828	671-672

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 100	246291	15828	673-674
	# 101	246292	15828	675-676
	# 102	246293	15828	677-678
	# 103	246294	15828	679-680
	# 104	246295	15828	681-682
	# 105	246296	15828	683-684
	# 106	246297	15828	685-686
	# 107	246298	15828	687-688
	# 108	246299	15828	689-690
	# 109	246300	15828	691-692
	# 110	246301	15828	693-694
	# 111	246302	15828	695-696
	# 112	246303	15828	697-698
	# 113	246304	15828	699-700
	# 114	246305	15828	701-702
	# 115	246306	15828	703-704
	# 116	246307	15828	705-706
	# 117	246308	15828	707-708
	# 118	246309	15828	709-710
	# 119	246310	15828	711-712
	# 120	246311	15828	713-714
	# 121	246312	15828	715-716
	# 122	246313	15828	717-718
	# 123	246314	15828	719-720
	# 124	246315	15828	721-722
	# 125	246316	15828	723-724
	# 126	246317	15828	725-726
	# 127	246318	15828	727-728
	# 128	246319	15828	729-730
	# 129	246320	15828	731-732
	# 130	246321	15828	733-734
	# 131	246322	15828	735-736
	# 132	246323	15828	737-738
	# 133	246324	15828	739-740
	# 134	246325	15828	741-742
	# 135	246326	15828	743-744
	# 136	246327	15828	745-746
	# 137	246328	15828	747-748
	# 138	246329	15828	749-750
	# 139	246330	15828	751-752
	# 140	246331	15828	753-754
	# 141	246332	15828	755-756
	# 142	246333	15828	757-758
	# 143	246334	15828	759-760
	# 144	246335	15828	761-762
	# 145	246336	15828	763-764

Exhibit "A"

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Desert	# 146	246337	15828	765-766
	# 147	246338	15828	767-768
	# 148	246339	15828	769-770
	# 149	246340	15828	771-772
	# 150	246341	15828	773-774
	# 151	246342	15828	775-776
	# 152	246343	15828	777-778
	# 153	246344	15828	779-780
	# 154	246345	15828	781-782
	# 155	246346	15828	783-784
B-lan	1	246173	15952	600-601
	2	246174	15952	602-603
	3	246175	15952	604-605
	4	246176	15952	606-607
	5	246177	15952	608-609
	6	246178	15952	610-611
	7	246179	15952	612-613
	8	246180	15952	614-615
	9	246181	15952	616-617
	10	246182	15952	618-619
	11	246183	15952	620-621
	12	246184	15952	622-623
	13	246185	15952	624-625
	14	246186	15952	626-627
	15	246187	15952	628-629
	16	246188	15952	630-631
	17	246189	15952	632-633
	18	246190	15952	634-635
	19	246191	15952	636-637
	20	246192	15952	638-639
	21	246193	15952	640-641
	22	246194	16260	516-517
	23	246195	16260	514-515
Zen	1	246152	15952	544-545
	2	246153	15952	546-547
	3	246154	15952	548-549
	4	246155	15952	550-551
	5	246156	15952	552-553
	6	246157	15952	554-555
	7	246158	15952	556-557

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
Zen	8	246159	15952	558-559
	9	246160	15952	560-561
	10	246161	15952	562-563
	11	246162	15952	564-565
	12	246163	15952	566-567
	13	246164	15952	568-569
	14	246165	15952	570-571
	15	246166	15952	572-573
	16	246167	15952	574-575
	17	246168	15952	576-577
	18	246169	15952	578-579
	19	246170	15952	580-581
	20	246171	15952	582-583
	21	246172	15952	584-585
A-lan	1	246518	15952	451-452
	2	167035	15952	453
	3	167036	15952	455
	4	167037	15952	457
	5	167038	15952	459
	6	170729	16025	518
	7	170730	16025	520
	8	246519	15952	461-462
	9	167040	15952	463
	10	167041	15952	465
	11	167042	15952	467
	12	167043	15952	469
	13	170731	16025	522
	14	170732	16025	524
	15	246520	15952	471-472
	16	167045	15952	473
	17	167046	15952	475
	18	167047	15952	477
	19	167048	15952	479
	20	170733	16025	526
	21	170734	16025	528
	22	246521	15952	481-482
	23	167050	15952	483
	24	167051	15952	485
	25	167052	15952	487
	26	167053	15952	489
	27	170735	16025	530
	28	170736	16025	532
	29	246522	15952	491-492

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
A-lan	30	167055	15952	493
	31	167056	15952	495
	32	167057	15952	497
	33	167058	15952	499
	34	170737	16025	534
	35	170738	16025	536
	36	246523	15952	501-502
	37	167060	15952	503
	38	167061	15952	505
	39	167062	15952	507
	40	167063	15952	509
	41	170739	16025	538
	42	170740	16025	540
Vulture Annex # 1		246516		
Vulture Annex # 2		246517		

Placer	Mining	Claims		
V.M.P.	1	77018	11693	739
	2	77019	11693	740
	3	77020	11693	741
	4	77021	11693	742
	5	77022	11693	743
	6	77023	11693	744
	7	77024	11693	745
	8	77025	11693	746
	9	77026	11693	747
	10	77027	11693	748
	11	77028	11693	749
	12	77029	11693	750
	13	77030	11693	751
	18	77031	11693	752
	19	77032	11693	753
	20	77033	11693	754
	21	77034	11693	755
	22	77035	11693	756
	23	77036	11693	757
	24	77037	11693	758

Claim Name	Number	BLM Number Serial Number AMC	Docket Book	Page
V.M.P.	25	77038	11693	759
	26	77039	11693	760
	27	77040	11693	761
	28	77041	11693	762
	29	77042	11693	763
	30	77043	11693	764
	31	77044	11693	765
	32	77045	11693	766
	33	77046	11693	767
	34	77047	11693	772
	35	77048	11693	773
	36	77049	11693	774
	37	77050	11693	775
	38	77051	11693	776
J.S.	1	71781	7685	387
	2	71782	7685	388
	3	71783	7685	389
	4	71784	7685	390
	5	71785	7685	391
	6	71786	7685	392
	7	71787	7685	393
	8	71788	7685	394
	9	71789	7685	395
	10	71790	7685	396
	11	71791	7685	397
	12	71792	7685	398
	13	71793	7685	399
	14	71794	7685	400
	15	71795	7685	401
	16	71796	7685	402

ARIZONA EXPLORATIONS INC.

February 14, 1990

Mr. W. Scott Donaldson
Attorney at Law
301 W. Indian School Rd., Ste. #102
Phoenix, Arizona 85013

RE: MEETING - BEAL/BUDGE/ARIZONA EXPLORATIONS INC.

Dear Mr. Donaldson;

This will confirm our telephone discussion of Tuesday, February 13th concerning the proproposed meeting between Mr. L.F. Beal, A.F. Budge (Mining) Ltd., and Arizona Explorations Inc. We understand that the meeting will take place at your offices, 301 W. Indian School Rd., #102, at 9:00a.m. on Tuesday, February 20, 1990.

It is understood that the meeting will only be attended by representatives of the above companies and that no legal representation is planned at this time. I have talked to Budge Mining and have been informed that Ms. Carol O'Brien (Mining and Financial coordinator), and Mr. Ronald R. Short (General Manager) will be in attendance. For Arizona Explorations Inc. there will be Mr. Hans L. Matthews (Project Geologist) and myself in attendance.

I appreciate your efforts in arranging the above meeting. I am also hopeful that it will take place and as arranged and achieve some degree of success. I am looking forward to meeting you next Tuesday.

With kindest regards,

Sincerely yours,

Stanley Holmes

ARIZONA EXPLORATIONS INC.
Stanley W. Holmes,
President

RECEIVED FEB 16 1990

SWH/bjg

CC: Ms. Carol O'Brien - A.F. Budge (Mining) Ltd.
Mr. Ronald Short - A.F. Budge (Mining) Ltd.
Mr. Hans Matthews - Arizona Explorations Inc.
Mr. Michael Urman - DeConcini McDonald Brammer Yetwin & Lacy

ARIZONA EXPLORATIONS INC.

February 14, 1990

Mr. W. Scott Donaldson
Attorney at Law
301 W. Indian School Rd., Ste. #102
Phoenix, Arizona 85013

RE: MEETING - BEAL/BUDGE/ARIZONA EXPLORATIONS INC.

Dear Mr. Donaldson;

This will confirm our telephone discussion of Tuesday, February 13th concerning the proproposed meeting between Mr. L.F. Beal, A.F. Budge (Mining) Ltd., and Arizona Explorations Inc. We understand that the meeting will take place at your offices, 301 W. Indian School Rd., #102, at 9:00a.m. on Tuesday, February 20, 1990.

It is understood that the meeting will only be attended by representatives of the above companies and that no legal representation is planned at this time. I have talked to Budge Mining and have been informed that Ms. Carol O'Brien (Mining and Financial coordinator), and Mr. Ronald R. Short (General Manager) will be in attendance. For Arizona Explorations Inc. there will be Mr. Hans L. Matthews (Project Geologist) and myself in attendance.

I appreciate your efforts in arranging the above meeting. I am also hopeful that it will take place and as arranged and achieve some degree of success. I am looking forward to meeting you next Tuesday.

With kindest regards,

Sincerely yours,

Stanley Holmes

ARIZONA EXPLORATIONS INC.
Stanley W. Holmes,
President

RE[illegible] 16 1990

SWH/bjg

CC: Ms. Carol O'Brien - A.F. Budge (Mining) Ltd.
Mr. Ronald Short - A.F. Budge (Mining) Ltd.
Mr. Hans Matthews - Arizona Explorations Inc.
Mr. Michael Urman - DeConcini McDonald Brammer Yetwin & Lacy

Exodyne Business Park, 8433 North Black Canyon Hwy., Ste. 158, Phoenix, AZ 85021, (602) 864-6202 FAX: (602) 864-6116
Canadian Office: 7 King St. East, Ste. 1001, Toronto, Ontario M5C-1B5

ARIZONA EXPLORATIONS INC.

February 14, 1990

Mr. Ronald R. Short,
General Manager
A.F. Budge (Mining) Ltd.
4301 N. 75th Street, Ste. #101
Scottsdale, Az 85251-4630

RE: TECHNICAL DATA/REPORTS - DONALD WHITE

Dear Ron;

This will confirm our discussion yesterday concerning the possibility of acquiring additional technical data on the Vulture Mine Project from Donald White.

It would appear from our studies over the past several months that there is additional technical data existing that we did not pick up during our initial visit to your offices. In discussions with Don White and from other sources it would appear that much of this data is in his possession. We would appreciate you requesting the data from him if it exists and either obtaining the originals or copies of the originals. We would gladly pay for all reproduction costs.

It would be greatly appreciated if you could assist us in acquiring this data. It is absolutely necessary for us to have all of the existing documentation referring to the Vulture in order to complete our evaluation.

With kindest regards,

Sincerely yours,

Stan

ARIZONA EXPLORATIONS INC.
Stanley W. Holmes,
President

RE[illegible] 6 1990

SWH/bjg

CC: Hans L. Matthews - Arizona Explorations Inc.

Exodyne Business Park, 8433 North Black Canyon Hwy., Ste. 158, Phoenix, AZ 85021, (602) 864-6202 FAX: (602) 864-6116
Canadian Office: 7 King St. East, Ste. 1001, Toronto, Ontario M5C-1B5

BUDGE

A.F. Budge (Mining) Limited

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

February 28, 1990

Larry W. Beal
President
V.M.P.,Inc.
1414 E. Purdue
Phoenix, AZ 85020

Dear Larry:

We appreciate your taking the time to meet with us last week to discuss matters pertaining to the Vulture Mine property. We shall try to address each of your concerns.

In the matter of the Vulture City Townsite, the original agreement, dated July 1, 1984, specifically addresses Boundary Protection in Section 12 on page 12, and states "If Budge or Lessor locates mining claims ... within one mile from the exterior boundaries of the Property, such claims shall become part of the Property...". The Townsite, not being a mining claim, was purchased for cash from the Court and title belongs to Budge.

In the matter of the Production Bonus, we believe our position was clearly stated in our letter of August 30, 1988.

As to Mr. Osborne, the 1984 "Memorandum of Understanding", by and between V.M.P., Inc. and A.F. Budge (Mining) Limited clearly states that "Budge (will) pay...per month each to such individuals...during the term of the option...", and that, after the option was exercised, "...the decision to use or not use such services (offered by Messrs. Osbornes) shall be within the sole discretion of Budge."

As was discussed in the meeting, we have exhausted the most obvious possibilities for expanding reserves at the Vulture. This does not preclude the existance of higher risk targets. However, under the present conditions of the agreement, the holdings costs are too higher to warrant the expenditure of funds.

Therefore, we would like to propose the following:

(1) Monthly payments would be reduced to a fixed $2,500 per month during the exploration term of 48 months.

(2) At the end of the 48-month exploration period or with the completion of a feasibility study, payments would be increased to $5,000 per month and would continue until production begins.

(3) Once production begins, the property would be purchased for $3,000,000 with payments made at a rate of $500,000 per year for six (6) years.

(4) During the new agreement, Mr. Osborne would be retained as a watchman and would be allowed to conduct his various "tourist activities".

A response to this proposal by March 9, 1990 would be appreciated.

Very truly yours,

Ronald R. Short
General Manager

Shipment Date	Collection Note #	Settlement Date	Ounces Gold	Ounces Silver	Material
	540	12-02-88	142.84	469.19	Dore
	547	12-02-88	11.81	58.17	Precip.
	570	12-13-88	8.03	24.21	Dore
	571	12-13-88	106.83	464.84	Precip.
	597	01-13-89	17.68	63.19	Dore
	601	01-13-89	169.78	554.52	Precip.
02-03-89	626	02-15-89	174.41	603.43	Dore
02-10-89	627	02-17-89	88.85	289.92	Dore
02-17-89	631	03-08-89	51.58	192.03	Dore
02-24-89	639	03-10-89	87.21	330.59	Dore
03-03-89	645	03-13-89	47.40	180.70	Dore
03-10-89	656	03-17-89	72.33	216.49	Dore
03-17-89	663	03-23-89	62.76	163.83	Dore
03-24-89	670	03-30-89	124.38	318.24	Dore
03-31-89	681	04-06-89	95.99	268.31	Dore
04-07-89	686	04-13-89	56.96	166.48	Dore
04-14-89	696	04-20-89	65.18	196.49	Dore
04-21-89	711	05-02-89	53.38	164.93	Dore
04-28-89	715	05-08-89	37.08	130.10	Dore
05-12-89	732	05-17-89	125.38	395.21	Dore
05-19-89	742	05-26-89	93.32	271.23	Dore
06-01-89	758	06-13-89	80.10	274.50	Dore
06-09-89	762	06-20-89	59.52	164.05	Dore
06-16-89					
06-23-89	777	06-29-89	110.48	322.41	Dore
06-30-89	778	07-12-89	49.68	150.19	Dore
07-10-89	795	07-18-89	49.66	155.17	Dore
07-17-89					
07-31-89	810	08-08-89	136.73	397.40	Dore
08-07-89	814	08-17-89	85.30	243.75	Dore
08-28-89	838	09-06-89	129.89	357.65	Dore
09-01-89	846	09-11-89	60.24	156.45	Dore
09-14-89	857	09-22-89	114.58	291.36	Dore
09-22-89	867	09-29-89	76.40	190.57	Dore
09-29-89	872	10-05-89	86.29	217.15	Dore
Totals through October 5, 1989			2,732.0	8,442.7	

"Net" to Budge	Settlement Prices		Payment Date
	Gold	Silver	
$61,524.78	$424.25	$6.13	12-27-88
$4,730.61	$424.25	$6.13	12-27-88
$2,944.16	$420.50	$6.13	12-27-88
$44,746.01	$420.50	$6.13	12-27-88
$6,872.67	$405.55	$5.93	02-02-89
$67,518.86	$405.55	$5.93	02-02-89
$67,527.32	$381.00	$5.81	03-08-89
$34,052.67	$380.40	$5.96	03-10-89
$20,490.40	$394.60	$5.88	03-28-89
$34,958.64	$393.50	$5.97	03-30-89
$18,743.70	$392.50	$6.04	03-31-89
$28,751.43	$395.50	$6.14	
$24,678.60	$394.90	$6.00	
$48,725.34	$383.70	$5.76	04-20-89
$36,869.39	$382.25	$5.77	04-27-89
$21,935.93	$386.20	$5.78	05-04-89
$25,059.07	$384.00	$5.75	05-11-89
$20,098.93	$377.45	$5.66	05-19-89
$13,919.17	$378.25	$5.62	05-26-89
$46,958.62	$371.90	$5.43	06-06-89
$34,245.06	$365.80	$5.23	06-15-89
$28,969.62	$358.70	$5.20	07-03-89
$21,674.47	$366.60	$5.32	07-10-89
$41,391.35	$373.00	$5.15	07-21-89
$18,710.67	$379.75	$5.29	08-01-89
$18,284.52	$370.70	$5.24	08-08-89
$49,890.99	$365.90	$5.16	08-28-89
$31,159.60	$364.90	$5.23	
$46,874.93	$359.20	$5.10	09-27-89
$21,384.70	$358.60	$5.07	10-02-89
$42,138.99	$367.35	$5.29	10-13-89
$27,836.31	$366.50	$5.23	10-20-89
$31,196.69	$363.00	$5.13	10-26-89
$1,044,864.20			

To: Anthony F. Budge

From: Dale H. Allen
Carole A. O'Brien

Copies: Ronald R. Short
John W. Norby
File

Date: September 27, 1989

Subject: Vulture Mine

Production

The flow rate from the heaps has increased substantially this month and, in order to maintain a solution balance, it has been necessary to operate the plant on a 24-hour basis, 7 days a week. As a result, beginning in October, sales to GD Resources, Inc. should be approximately 100 to 150 ounces of gold per week.

This projection is made on the assumption that recent events involving a minor altercation with the Department of Environmental Quality will not effect future production.

Reported Leak

On August 10, 1989 we reported to the Arizona Department of Environmental Quality, Office of Water Quality (copy attached) that cyanide leach solution had been observed in our leak detection system on pads #1 and #2. With the use of a variable speed pump, the leak on pad #2 was measured at 25 to 30 ml per minute, or approximately 9.5 gallons per 24-hour day. The leak on pad #1 was only recently discovered, and appears to be much smaller. The appearance of this second leak is coincident with solution return from the back heap.

Personnel from the Department of Environmental Quality have since made a tour through the facilities and after conferring with their Compliance Section, have requested verbally that we stop applying all leach solution to that portion of the heap

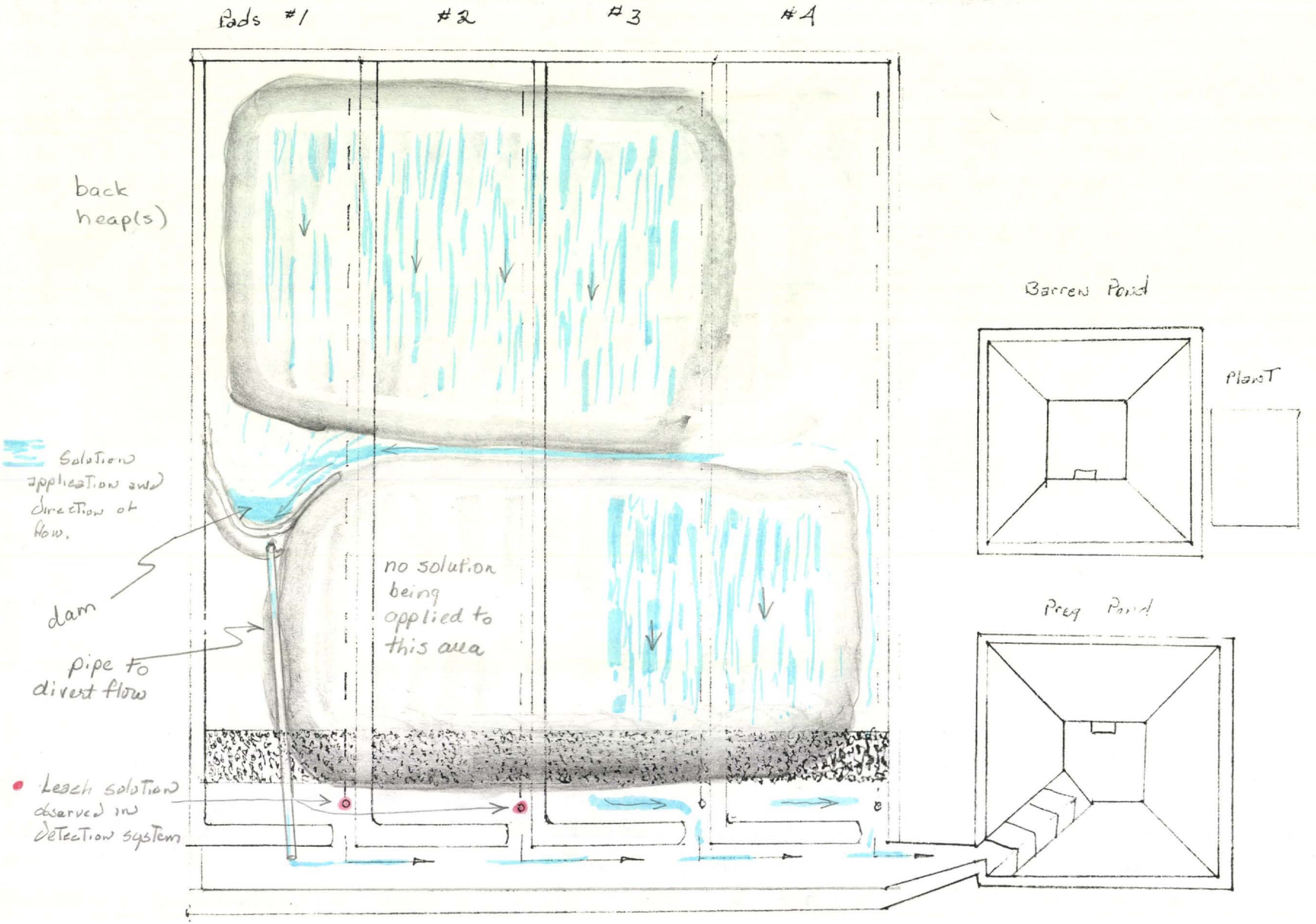
which shows evidence of a leak. They have also requested that we (1) install a second pump on the other leak, (2) monitor the flow from both leaks, (3) sample and analyse the leak solution, (4) collect and have analysed 3 samples of water from our well, the mine and one other location near the operation to determine groundwater flow and the extent of contamination, if any, and (5) within 30 days, present a plan to remediate the situation.

Status and Remedial Action

Leach solution has been percolating through this portion of the heap during the past 4 months and there is a high probability that most of the gold has been already been leached from the tails stacked here. This will be confirmed within the next few weeks; we will auger drill and sample the tails and run hot leaches to determine the gold content.

We believe the leak(s) are the result of numerous pin holes located in the front section of the pad where screened river-bed gravel was spread during the original construction.

At the present time, we are constructing a dam to contain the solution return from the back heaps, and will divert the flow through a pipe across the leaking portion of the pad to the collection ditch which drains into the pregnant pond. See following sketch map.


Pads #1
#2
#3
#4
back heap(s)
Solution application and direction of flow.
dam
pipe to divert flow
no solution being applied to this area
Leach solution observed in detection system
Barren Pond
Plant
Preg Pond

A member of the
Orion Corporation Group

GD RESOURCES INC.

450 E. Glendale Avenue
Sparks Nevada 89431
Telephone (702) 358-9229
FAX (702) 358-9275

CONTRACT BETWEEN GD RESOURCES INC. AND A.F. BUDGE (MINING) LIMITED

1. CLASSIFICATION OF MATERIAL

CLASS : Class C, **ZINC PRECIPITATE**

GRADE : 3% - 5% Au
10% - 25% Ag

AMOUNT : Approximately 50 lbs. per week

2. CHARGES

PLAN 1 : TREATMENT CHARGE PLUS METAL ACCOUNTABILITY

1. **Processing Charge**

   Minimum $500.00 per lot or $2.75 per pound received.

2. **Metal Accountability**

   Based on Settlement Assay.

   Gold

Less than 30 ozs. recovered	97.5% return
More than 30 ozs. recovered	97.75% return

   Silver

Less than 100 ozs. recovered	96.5% return
More than 100 ozs. recovered	97.0% return

A penalty clause for excess **Mercury** will apply based on the attached schedule.

No other deductions.

3. METHOD OF PAYMENT

Payment to **BUDGE** in the form of a GD check (less GD costs) will be made 15 working days from the date of settlement assay.

4. MASS DETERMINATION AND METAL CONTENT (SETTLEMENT ASSAY)

The material will be weighed on a certified scale in the presence of a representative(s) of **BUDGE.** Samples will be assayed by both GD Resources and **BUDGE** and a settlement assay reached based on a 2% tolerance. If the assays cannot be agreed upon, then an umpire assayer will be used to reach the settlement assay.

See Section 4, Standard Refining Terms for complete details.

5. **METAL PRICE FIXING**

Gold : London Bullion Market, afternoon price fix.
Silver : Handy and Harman, New York quotation.

Prices will be fixed on the first day of trading following the settlement assay.

6. **DELIVERY OF MATERIAL**

Material is accepted F.O.B. the refinery with **BUDGE** to pay all transportation and insurance costs.

All containers must have chemical markings blacked out or otherwise removed.

7. **OTHER TERMS**

Please see Standard Refining Terms (attached).

The above quotation supercedes the relative terms contained in the Standard Refining Terms.

Accepted this _____ day of _____ 19____.

_____
Dale Allen, Production Manager
A.F. Budge (Mining) Limited

_____
Steve Kay
Vice President, Marketing/Geology
GD Resources, Inc.

A.F. Budge (Mining) Limited
4301 N. 75th St. # 101
Scottsdale, AZ 85251

SK/dlr

Contact: Dale Allen

11/07/88

A member of the
Orion Corporation Group

GD RESOURCES
INC.

450 E. Glendale Avenue
Sparks Nevada 89431
Telephone (702) 358-9229
FAX (702) 358-9275

A.F. BUDGE (MINING) LIMITED

EXCESS MERCURY SCHEDULE

ppm Hg	Charge per lb.
- 50	No charge
50 - 150	$0.25
150 - 250	$0.50
250 - 350	$0.75
350 - 450	$1.00
450 - 500	$1.25
+ 500	Not acceptable without prior permission

Steve Kay
November 7, 1988

A member of the
Orion Corporation Group

GD RESOURCES
INC.

450 E. Glendale Avenue
Sparks Nevada 89431
Telephone (702) 358-9229
FAX (702) 358-9275

CONTRACT BETWEEN GD RESOURCES INC.
AND
A.F. BUDGE (MINING) LIMITED

1. **CLASSIFICATION OF MATERIAL**

CLASS :	Class Miscellaneous, **IMPURE DORE**
GRADE :	5% - 12% Au 30% Pb 34% Cu 15% - 50% Ag 5% Zn
AMOUNT :	14 bars, approximately 1,000 ounces total weight

2. **CHARGES**

PLAN 2 : TREATMENT CHARGE PLUS METAL ACCOUNTABILITY BASED ON RECOVERY

1. **Treatment Charge**

   $500.00 minimum charge.

2. **Accountability**

   Based on recovered dore and settlement bullion assay.

   Gold

   97.75% return.

   Silver

   97.0% return.

No other deductions.

3. **METHOD OF PAYMENT**

Payment to **BUDGE** in the form of a net check (less GD costs) will be made 15 working days from the date of settlement assay.

4. **MASS DETERMINATION AND METAL CONTENT (SETTLEMENT ASSAY)**

The material will be weighed on a certified scale in the presence of a representative(s) of **BUDGE** and GD and the net weight recorded on GD's official receipt which will be accepted by both parties as final and binding.

GD will first cupel and then smelt the material and endeavor to recover the maximum amount of precious metal from the material. A representative(s) of **BUDGE** will be present during the processing period, if requested.

Vacuum tube samples will be taken from the dore for assay and will be divided into 3 samples. In the first instance, two samples will be assayed, one each by **BUDGE** and GD. If the assays of the dore are within the following tolerances, then the exact mean of the two assays will be taken:

Gold	0.25%
Silver	0.50%

If the assays fall outside these tolerances then a mutually acceptable Umpire Assayer will be used. Under such conditions the middle value of the three assays (GD, **BUDGE** and Umpire will be used). The party whose assay is furthest from the umpire assay shall pay the umpire costs.

5. METAL PRICE FIXING

Gold : London Bullion Market, afternoon price fix.
Silver : Handy and Harman, New York quotation.

Prices will be fixed on the day following settlement bullion assay.

6. DELIVERY OF MATERIAL

Material is accepted F.O.B. the refinery with **BUDGE** to pay all transportation and insurance costs.

All containers must have chemical markings blacked out or otherwise removed.

7. OTHER TERMS

See Standard Refining Terms.

Terms stated in this contract supercede those stated in the Standard Refining Terms.

Accepted this 11TH day of NOVEMBER 1988.

Dale Allen, Production Manager
A.F. Budge (Mining) Limited

Steve Kay
Vice President, Marketing/Geology
GD Resources, Inc.

A.F. Budge (Mining) Limited
4301 N. 75th St. # 101
Scottsdale, AZ 85251

SK/dlr

Contact: Dale Allen

11/07/88

A member of the
Orion Corporation Group

GD RESOURCES
INC.

450 E. Glendale Avenue
Sparks Nevada 89431
Telephone (702) 358-9229
FAX (702) 358-9275

November 7, 1988

A.F. Budge (Mining) Limited
4301 N. 75th St. # 101
Scottsdale, AZ 85251

ATTN: Dale Allen, Production Manager

Dear Dale,

It was a pleasure meeting with yourself and Ron Short at the Elko Conference last week. Attached are the following proposals to treat the materials that we discussed:

1. **Impure Dore Processing, approximately 1,000 ozs.**

2. **Run-of-Mine Zinc Precipitate, approximately 50 lbs. per week**

The costs of treating the **Impure Dore** is somewhat higher than we discussed due to costs of reagents being significantly higher than my original estimate.

Should the proposals be acceptable, I will mail two originals for signatures and we can arrange a specific date for treatment of the dore.

If there are any questions please call me.

Yours sincerely,

Steve Kay
Vice President, Marketing/Geology

SK/dlr

enclosures

cc DT

IRON KING ASSAY INC.

04-Jan-89

LAB JOB #: AFB03429

ATTN: Carole A. O'Brien

Client name: A. F. Budge Mining Ltd.

No. Samples: 5
Date Received: 11-23-88
Submitted by: D. Allen

Billing address: 4301 N. 75th Street
Suite #101
Scottsdale, AZ 85251-3504

Phone number: 945-4630/376-9056

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03429	Lab ID		FA/AA Au oz/ton	FA Ag oz/ton
Vulture Line Samp.				
"11/10"	3429-	1	0.033	0.12
"11/11"	3429-	2	<.001	0.12
"11/14"	3429-	3	0.003	0.19
"11/16"	3429-	4	0.011	0.26

			FA/AA Au wt%	FA Ag wt%	Crude Insol. SiO2 wt%
Zn Precip.	3429-	5	0.75	3.33	5.8

			AA Cu wt%	Pb wt%	Zn wt%	Fe wt%
Zn Precip.	3429-	5	9.00	1.60	10.00	0.50

REGISTERED ASSAYER
CERTIFICATE NO. 14575
ROBERT G. CROOK
Date Signed 1-3-89
ARIZONA, U.S.A.

OFFICE OF STATE MINE INSPECTOR
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

OFFICIAL SEAL
STATE OF ARIZONA
MINE INSPECTOR

C M 10-13-88

HEALTH AND SAFETY INSPECTION REPORT

COMPANY NAME: A. F. BUDGE MINING LIMITED

MINE/PLANT NAME: Vulture Mine

MAILING ADDRESS: 4301 N. 75th St.
Suite 101

CITY: Scottsdale, AZ 85251

MINE/PLANT LOCATION: RANGE: _____, **TOWNSHIP:** _____ **SECTION** _____

12 miles southwest of Wickenburg on the Vulture Mine Road.

TELEPHONE NUMBER: 954-4630 **IDENTIFICATION NUMBER:** 10184300

STATUS: X **PERMANENT** _____ **INTERMITTENT** _____ **TEMPORARY/PORTABLE**

THIS REPORT IS BASED ON AN INSPECTION MADE PURSUANT TO ARIZONA REVISED STATUTES SECTION 27-128 & SECTION 27-124

DATE OF INSPECTION: October 5, 1988

TYPE OF OPERATION: Cyanide Leach

PRINCIPAL PRODUCT: Gold

COUNTY: Maricopa

COMPANY OFFICIALS:
Carol A. O'Brien, Operator
Dale Allen, Supt.
Eric Allen, C/N Plant Operator

INSPECTION PARTY:
Dale Allen, Supt.

JIM MATT
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

NUMBER OF EMPLOYEES: 3

cc: A. F. BUDGE MINING LIMITED
ff

A. F. BUDGE MINING LIMITED
Vulture Mine
October 5, 1988

ABATEMENTS: PRIOR INSPECTION OF AUGUST 1, 1988.

Violations #2,4,5,6, and 8 have been abated.

WITHDRAWAL: PRIOR INSPECTION OF MAY 14, 1988.

Violation #1 has been withdrawn.

VIOLATIONS OF RULES AND REGULATIONS OF STATE OF ARIZONA MINING CODE.

C/N PLANT:

1. R11-1-2210 A & B — All lines and valves in cyanide circuits shall be color coded or otherwise adequately identified. The system of identification shall be color coded yellow. Potable water outlets shall be color coded blue, by 10/7/88.

2. R11-1-802 — Replace the cover for the long junction box at the south side of the C/N Plant, by 10/6/88.

WATER WELL BUILDING:

3. R11-1-802 — The 110 volt transformer is not properly grounded, by 10/6/88.

4. R11-1-1303 — Provide berms at least axle high to the scraper, at the scraper ramp, by 10/14/88.

/s/JIM MATT
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

OFFICE OF STATE MINE INSPECTOR

1616 W. ADAMS SUITE 411
PHOENIX, AZ 85507-2627
(602) 255-5971

CONTINUITY AND RESISTANCY CHECK OF GROUND

INSPECTION DATE: Oct. 5, 1988 COMPANY: A.F. BUDGE MINING LIMITED

INSPECTED BY: Jim Matt - Angel Olvera
Deputy Mine Inspector

MINE/PLANT: Vulture Mine

FROM:	TO:	OHMS:
5/8" Ground Rod and		
Burried Ground Grid		
" "	Feed Hopper	Ø
" "	Feeder	Ø
	Vibrator #1 & 2	Ø
" "	Conveyor #1 & 2	Ø
	Aglominator	Ø
" "	Lime Tank	Ø
	Lime Feeder	Ø
" "	Cement Feeder	Ø
	Control Panels	Ø
" "	480 Volt Diesel Generator	Ø
" "	Conveyors 4,5,6,7,8	Ø

OFFICE OF STATE MINE INSPECTOR

1616 W. ADAMS SUITE 411
PHOENIX, AZ 85507-2627
(602) 255-5971

CONTINUITY AND RESISTANCY CHECK OF GROUND

INSPECTION DATE: Oct. 5, 1988 COMPANY: A. F. BUDGE MINING LIMITED

INSPECTED BY: Jim Matt - Angel Olvera
Deputy Mine Inspector

MINE/PLANT: Vulture Mine

FROM: 5/8" Ground Rod and Burried Ground Grid	TO: C/N LEACH PLANT	OHMS:
" "	Press # 1 & 2	Ø
" "	Melting Furnace	Ø
" "	C/N Tank	Ø
" "	C/N Feed Pump	Ø
" "	C/N Acgetator	Ø
" "	Fresl H^2o Pressor System	Ø
" "	Control Boxes For	Ø
" "	C/N Feeder	Ø
" "	C/N Acgetator	Ø
" "	Barron Pump	Ø
" "	Furnace	Ø
" "	Zinc Plant	Ø

STATE MINE INSPECTOR
JAMES H. McCUTCHAN, C.P.M.
1616 WEST ADAMS, SUITE 411
PHOENIX, ARIZONA 85007-2627
(602) 255-5971

May 16, 1988

Mr. Anthony F. Budge
President
Budge Mining, Ltd.
P.O. Box 938
Jerome, Arizona 86331

Dear Mr. Budge:

The Arizona State Mine Inspector's Office congratulates:

BUDGE MINING, LTD.
U.V.X. MINE

for working 27,225 man hours during 1987 without a lost time accident and proudly presents the enclosed Certificate of Appreciation.

Thank you and your employees for this fine safety accomplishment. Please continue this fine effort.

Sincerely yours,

James H. McCutchan, C.P.M.
State Mine Inspector

Office of State Mine Inspector

1616 W. Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

October 27, 1988

A. F. Budge (Mining) Limited
4301 North 75th Street
Suite 101
Scottsdale, Arizona 85251-3504

SUBJECT: Variance Exception

Our letter of October 20, 1988, granted an Exception (Variance) to Rule R11-1-2231B.

This request is granted subject to all conditions listed in the attached letter.

All Exceptions (Variances) will be temporary in that they will expire on December 31, 1988, or sooner if revoked in writing by the State Mine Inspector.

Operations may ask for an extention to an Exception (Variance) prior to the December 31st expiration date and the State Mine Inspector will address such requests on their individual merits.

Please do not hesitate to contact me whenever you need additional information.

Sincerely yours,

James H. McCutchan, C.P.M.
State Mine Inspector

E.R. Martin

Eddie R. Martin
Assistant State Mine Inspector

ERM/jo

Attachment

Office of State Mine Inspector

1616 W. Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

October 20, 1988

A. F. Budge (Mining) Limited
4301 North 75th Street
Suite 101
Scottsdale, Arizona 85251-3504

SUBJECT: Request for Variance to Rule R11-1-2231B

Your request for a variance is granted subject to certain conditions listed below:

1. The pregnant solution pond at no time will be filled in excess of 50% of it's capacity.

2. Install steel posts surrounding each pond; string a ½" steel cable on the posts so that it is at a height of 42" ± 2" above the ground; provide a life preserver at each pond; require that any employee working inside the cable use a safety belt tied off to the cable.

If you have any questions, please feel free to call.

Sincerely,

James H. McCutchan, C.P.M.
State Mine Inspector

E.R. Martin

Eddie R. Martin
Assistant State Mine Inspector

ERM/jo

IRON KING ASSAY INC.

16-Jan-89

LAB JOB #: AFB03602

Client name: A.F.Budge Mining Ltd.

Billing address: 4301 N. 75th St.
Suite 101
Scottsdale, AZ 85251-3504

Phone number: 945-4630/949-1737

No. Samples: 7
Date Received: 01-10-89
Submitted by: D. Allen

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03602	Lab ID		FA/AA Au oz/ton	Ag oz/ton
Vulture Line Samples				
11-21-88	3602-	1	0.017	<.10
06-Dec-88	3602-	2	0.022	<.10
09-Dec-88	3602-	3	0.033	<.10
12-Dec-88	3602-	4	0.023	<.10
12-1-89	3602-	5	0.021	<.10
13-1-89	3602-	6	0.023	<.10
11-29-88	3602-	7	0.024	0.27

REGISTERED ASSAYER CERTIFICATE 14315 ROBERT G. COOK Date Signed 1-23-89 ARIZONA, U.S.A.

IRON KING ASSAY INC.

01-Feb-89

LAB JOB #: AFB03625

Client name: A.F. Budge Mining Ltd.
No. Samples: 1
Date Received: 01-17-89

Billing address: 4301 N. 75th St.
Suite 101
Scottsdale, AZ 85251-3504
Submitted by: D. Allen

Phone number: 945/4630/945-1737
INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03625	Lab ID	Fire Assay Au wt%	Ag wt%	AA Cu wt%	Pb wt%	Zn wt%
Precip 1/9/89	3625- 1	5.000	16.78	13.00	11.00	20.00

Client ID AFB03625	Lab ID	Moisture H2O wt%
Precip 1/9/89	3625- 1	0.00

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK Date Signed 2-6-89 ARIZONA, U.S.A.

IRON KING ASSAY INC.

25-Jan-89

LAB JOB #: AFB03628

Client name: A. F. Budge Mining Ltd.
No. Samples: 5
Date Received: 01-17-89
Billing address: 4301 N. 75th St.
Suite 101
Scottsdale, AZ 85251-3504
Submitted by: D. Allen
Phone number: 945-4630/945-1737
INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03628	Lab ID		FA/AA Au oz/ton	Fire Assay Ag oz/ton
Vulture Line Samples				
1-10-89	3628-	1	0.033	0.29
1-11-89	3628-	2	0.030	<.10
1-12-89	3628-	3	0.020	0.10
1-13-89	3628-	4	0.033	0.20
1-16-89	3628-	5	0.028	0.17

IRON KING ASSAY INC.

27-Oct-88

LAB JOB #: AFB03282

ATTN: Carole A. O'Brien

Client name: A. F. Budge Mining Ltd.

No. Samples: 4
Date Received: 10-24-88
Submitted by: D. Allen

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Phone number: 945-4630/376-9056

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID	Fire Assay Au oz/ton	Fire Assay Ag oz/ton
AFB03282			
Vulture			
Line Samp.10/17	10-24- 15	0.054	<.10
Line Samp.10/18	10-24- 16	0.052	0.13
Line Samp.10/19	10-24- 17	0.056	0.20

		Fire Assay Au wt%	Fire Assay Ag wt%	AA Cu wt%	AA Pb wt%	AA Zn wt%
Precip.10/20	10-24- 14	3.92	13.70	6.90	17.90	2.80

Moisture H2O wt%
15.65

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK Date Signed 10-27-88 ARIZONA, U.S.A.

IRON KING ASSAY INC.

15-Nov-88

LAB JOB #: MSC03363

ATTN: Carole A. O'Brien

Client name: A. F. Budge Mining Ltd.

No. Samples: 11
Date Received: 11-10-88
Submitted by: D. Allen

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Phone number: 945-4630/376-9056

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID	FA/AA Au oz/ton	Fire Assay Ag oz/ton
AFB03363			
Vulture Line Samp.			
Oct.20	3363- 1	0.065	0.50
Oct.21	3363- 2	0.048	0.17
Oct.24	3363- 3	0.067	0.32
Oct.25	3363- 4	0.039	0.24
Oct.26	3363- 5	0.051	0.31
Oct.27	3363- 6	0.060	0.36
Oct.28	3363- 7	0.051	0.26
Oct.31	3363- 8	0.033	0.26
Nov.1	3363- 9	0.050	0.25
Nov.2	3363- 10	0.040	0.15
Nov.3	3363- 11	0.012	<.10

average 11
.047 gold
.260 silver

REGISTERED ASSAYER CERTIFICATE NO. 14215 ROBERT G. CROOK Date Signed 11-16-88 ARIZONA, U.S.A.

IRON KING ASSAY INC.

21-Oct-88

LAB JOB #: AFB03239

ATTN: Carole A. O'Brien

Client name: A. F. Budge Mining Ltd.

No. Samples: 6
Date Received: 10-17-88

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Submitted by: D. Allen

Phone number: 945-4630

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID	FA/AA Au oz/ton	Fire Assay Ag oz/ton
AFB03239			
VULTURE			
Line Samples			
10/6	3239- 1	0.052	0.15
10/7	3239- 2	0.043	0.23
10/10	3239- 3	0.047	0.17
10/11	3239- 4	0.053	0.11
10/12	3239- 5	0.036	0.11
10/14	3239- 6	0.040	0.10

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK Date Signed 10-21-88 ARIZONA, U.S.A.

IRON KING ASSAY INC.

12-Oct-88

LAB JOB #: AFB03197

ATTN: Carole A. O'Brien

Client name: A. F. Budge (Mining) Ltd.

No. Samples: 4
Date Received: 10-07-88
Submitted by: R. Short

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Phone number: 945-4630/634-9034

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID		FA/AA Au oz/ton	Fire Assay Ag oz/ton
AFB03197				
VULTURE MINE - LINE SAMPLES				
09-29-88	3197-	1	0.051	0.24
09-30-88	3197-	2	0.052	0.25
10-04-88	3197-	3	0.040	0.18
10-05-88	3197-	4	0.040	0.22

average of 11 0.046 gold .146% silver.

REGISTERED ASSAYER CERTIFICATE NO. 14316 ROBERT G. CRICK ARIZONA, U.S.A.

10-13-88

20 samples .047 / .172

3.5 : 1

IRON KING ASSAY INC.

10-Oct-88

LAB JOB #: AFB03169

ATTN: Carole A. O'Brien

Client name: A. F. Budge Mining Ltd.

No. Samples: 7

Date Received: 10-03-88

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Submitted by: D. Allen

Phone number: (602) 945-4630

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID	FA/AA Au oz/ton	Fire Assay Ag oz/ton
AFB03169			
Vulture Mine - Line Samples			
09-14-88	3169- 1	0.039	<.10
09-15-88	3169- 2	0.040	<.10
09-15-88	3169- 3	0.048	<.10
09-15-88	3169- 4	0.061	<.10
09-15-88	3169- 5	0.049	<.10
09-15-88	3169- 6	0.039	0.12
09-15-88	3169- 7	0.045	<.10

average 7 .046

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT S. CROOK Registered ARIZONA, U.S.A.

IRON KING ASSAY INC.

29-Sep-88

LAB JOB #: AFB03133

ATTN: Carole A. O'Brien

Client name: A. F. Budge (Mining) Ltd.

No. Samples: 4

Date Received: 09-26-88

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Submitted by: R. Short

Phone number: 945-4360/634-8842

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03133	Lab ID	FA/AA Au oz/ton	Fire Assay Ag oz/ton
Vulture			
"Sept.8"	3133- 1	0.049	0.28
"Sept.9"	3133- 2	0.050	0.36
"Sept.12"	3133- 3	0.054	0.36
"Sept.13"	3133- 4	0.050	0.35

0.051 | .34

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK ARIZONA, U.S.A.

9-29-88

IRON KING ASSAY INC.

21-Sep-88

LAB JOB #: AFB03045

ATTN: Carole A. O'Brien

Client name: A. F. Budge (Mining) Ltd.

No. Samples: 5
Date Received: 09-09-88
Submitted by: D. White

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Phone number: 945-4360/778-3140

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID AFB03045	Lab ID		Fire Assay Au oz/ton	Ag oz/ton
Vulture Mine				
9-2-88	3045-	1	0.062	0.23
9-7-88	3045-	2	0.044	0.25
8-17-88	3045-	3	0.042	0.22
8-18-88	3045-	4	0.040	0.20
8-19-88	3045-	5	0.046	0.13

.047

REGISTERED ASSAYER CERTIFICATE NO. 14315 ROBERT G. CROOK Signed 9-21-88 ARIZONA, U.S.A.

IRON KING ASSAY INC.

13-Oct-88

LAB JOB #: AFB03215

ATTN: Carole A.O'Brien

Client name: A. F. Budge (Mining) Ltd.

No. Samples: 1
Date Received: 10-10-88

Billing address: 4301 N. 75th St.
Suite #101
Scottsdale, AZ 85251-3504

Submitted by: R. Short

Phone number: 945-4630/634-9034

INVOICE ATTACHED

ANALYTICAL REPORT

Client ID	Lab ID	FA/AA Au oz/ton	Fire Assay Ag oz/ton
AFB03215			
VULTURE MINE			
Line Sample "10-03-88"	3215- 1	0.026	0.14

Handy & Harman
4140 Gibson Road, P.O. Box 5150, El Monte, CA 91734 • (213) 283-8181 (818) 443-1301
TWX: (910) 587-3422 Telefax: (818) 401-1479

May 26, 1988

Ms Carole O'Brien, Manager
A.F. Budge Mining Ltd.
7340 E. Shoeman Lane
Scottsdale, AZ 85251

Dear Ms O'Brien,

At the request of Mr. Millsaps, of Millsaps Mineral Service, we are pleased to offer the following terms. We understand the assay of your material to be 90.0%, in the form of Dore'. The volume being 150 to 200 ounces per week.

TREATMENT CHARGE ----------	$.75 per troy ounce, net weight received.
MINIMUM LOT CHARGE ----------	$275.00
ASSAY CHARGE ----------	$50.00
METAL ACCOUNTABILITY----------	99.2% Gold, 97.0% Silver
PAYMENT ----------	Handy & Harman's published price on the date of settlement.
PROCESS TIME ----------	Approximately 4 weeks.

We thank you for your consideration. Should you have any questions, please do not hesitate to contact us.

Sincerely,

Debi Franklin
Refining Correspondent

cc: J. Nissim
S. Rizzio
E. Luszcz
V. Edelman
B. Hynes - NYO
B. Hardy - NYO
FILE

Encl: General Terms & Conditions

HANDY & HARMAN
850 THIRD AVENUE
NEW YORK, NEW YORK 10022

GENERAL TERMS AND CONDITIONS
APPLYING TO ALL REFINING TRANSACTIONS

EFFECTIVE WITH RECEIPTS JANUARY 4, 1988

FINE GOLD RETURN CHARGES

FINE GOLD (99.95% minimum) BARS/PLATE - - - - - - $1.00 PER OUNCE

...400-OUNCE BARS OR
...ROLLED GOLD PLATE, APPROX. 1/8" OR 1/4" THK. X 3" WIDE
NOTE: GRAIN MAY BE ADDED TO PROVIDE EXACT WEIGHT SHIPMENTS

FINE GOLD (99.95% minimum) GRAIN - - - - - - - - - $1.25 PER OUNCE

FINE GOLD (99.95% minimum) 100-OUNCE BARS - - - - $1.75 PER OUNCE

HIGH FINE GOLD (99.99% minimum) BARS/PLATE - - - $2.00 PER OUNCE.
NOTE: 400-OZ. BARS OR ROLLED GOLD PLATE, AS STATED ABOVE.

HIGH FINE GOLD (99.99% minimum) GRAIN - - - - - - $2.25 PER OUNCE.

HIGH FINE GOLD (99.99 minimum) 100-OUNCE BARS - - $2.75 PER OUNCE.

RETURN CHARGES - SILVER AND PLATINUM GROUP METALS

Silver — Standard 1,000-ounce Commercial Bars - $ .08 per ounce returned.

Platinum - Palladium -- As Commercial Grade

Sponge -- $10.00 per ounce.
Plate -- $12.00 per ounce.

SHIPMENTS

F. O. B., Handy & Harman Receiving Plants.

ALL RATES, TERMS, AND CONDITIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

HANDY & HARMAN
850 THIRD AVENUE
NEW YORK, NEW YORK 10022

GENERAL TERMS AND CONDITIONS APPLYING TO ALL REFINING TRANSACTIONS

EFFECTIVE WITH RECEIPTS JANUARY 4, 1988

ASSAY CHARGES - PER LOT

Gold and/or Silver - - - - - - - - $ 50.00
Platinum and/or Palladium - - - $100.00

NON-RECOVERABLE PRECIOUS METAL CONTENTS:

Below the following levels are considered Non-Payable:

METALLICS

Gold - Less than 0.30 parts per thousand.
Silver - Less than 1.00 part per thousand.
Platinum - Less than 1.00 part per thousand.
Palladium - Less than 1.00 part per thousand.
Iridium - Less than 1.00 part per thousand.) Schedule 1 only.
Rhodium - Less than 1.00 part per thousand.) Schedule 1 only.
Other Platinum Group Metals - Question.

SWEEPS

Gold - Less than 1.00 ounce per ton.
Silver - Less than 2.00 ounces per ton.
Platinum - Less than 2.00 ounces per ton.
Palladium - Less than 2.00 ounces per ton.
Other Platinum Group Metals - Question.

MINIMUM DEDUCTIONS

Metallics

Gold and/or Silver — No Minimum Deduction.
Platinum and Palladium — 1 troy ounce of each per lot.
Iridium & Rhodium - 2 troy ozs. each per lot.
Other Platinum Group Metals - Question.

Sweeps - Applies to all Sweeps lots.

Silver, Gold - 1 troy oz. each per lot.
Platinum, Palladium - 2 troy ounces each per lot.
Other Platinum Group Metals - Question.

CONTINUED...

HANDY & HARMAN
850 THIRD AVENUE
NEW YORK, NEW YORK 10022

GENERAL TERMS AND CONDITIONS APPLYING TO ALL REFINING TRANSACTIONS

EFFECTIVE WITH RECEIPTS JANUARY 4, 1988

PAYMENTS

Gold - Silver:	Handy & Harman Published Price.
Platinum - Palladium:	$10.00 per ounce below the NYMEX close for the current month as published in THE WALL STREET JOURNAL for the date of settlement.
Iridium:	$75.00 per ounce below the lower of the dealer price as published in Metals Week for the week in which settlement is made.
Rhodium:	$125.00 per ounce below the lower of the dealer price as published in Metals Week for the aweek in which settlement is made.
Tin:	$ .50 per pound below the "American Metal Market NY Ex-Dock" price published in the American Metal Market - date of settlement.
Lead:	$ .15 per pound below the "U.S. Non-Primary (Secondary) Producers Price," as published in the American Metal Market - date of settlement.
Mercury:	The Handy & Harman allowance prevailing date of settlement.
Tungsten:	The Handy & Harman allowance prevailing date of settlement.

CONSIGNMENT CHARGE FOR GOLD

0.3% Billed at time of settlement.

CONTINUED...

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

LEASE AND SERVICES AGREEMENT

BY THIS LEASE AND SERVICES AGREEMENT

effective as of the 1st day of July, 1988,

by and between Helton Equipment Rental, Inc., whose address is P.O. Box 55067, Tucson, Arizona 85703-5067 ("Lessor" herein),

and

A.F. Budge (Mining) Limited, a Nevada corporation, whose address is 7340 E. Shoeman Lane, Suite 111"B"(E), Scottsdale, Arizona 85251-3335 ("Budge" herein),

the Lessor, in consideration of the agreements set forth herein, has granted certain rights to Budge under the following terms and conditions:

1. Recitals

Lessor is the owner of certain equipment, in particular a motorgrader, a 1500-gallon water truck and an 11-yard self-loading scraper. Lessor and Budge desire to enter into an agreement whereunder Budge shall have exclusive right to lease the aformentioned equipment for use on Budge's Vulture Mine property, located approximately 14 miles south of Wickenburg.

2. Term

Unless sooner terminated under the termination provisions hereinafter contained, the term of the lease shall be for one year, but may be further extended for an additional year by Budge.

3. Obligations of Lessor

a. Conduct of Operations - All work performed by Lessor pursuant to this Agreement shall be done in a good and workmanlike manner and in compliance with all state or federal laws and regulations governing such operations.

b. Indemnity - Lessor shall indemnify and hold Budge harmless from all loss and expenses arising out of personal performances by Lessor of services hereunder, but Lessor shall not be liable for or responsible for the performance or nonperformance of Budge, its agents or contractors.

c. Insurance - Lessor shall, at its own expense, maintain in force and effect comprehensive liability insurance on its equipment.

d. Production Rate - Lessor shall supply the required material for feed to the Vulture plant at a rate of not less than 100 tons per hour.

4. Payments

Budge agrees to pay Lessor $20.00 per hour for both the services of an operator, plus fuel and maintenance of the equipment. Said sum to include all Federal and State taxes as required by law. During production, when equipment is in use, Budge agrees to pay Lessor an additional $80.00 per hour.

5. Termination by Budge

In the event Lessor fails in its obligations under this Agreement, Budge shall have the right to terminate this Agreement upon thirty days written notice to Lessor.

SIGNED, effective as of the date recited above.

LESSOR:

Helton Equipment Rental, Inc.

By _____
Gene Helton

BUDGE:

A.F. Budge (Mining) Ltd.

By _____
Dale H. Allen
Production Manager

BUDGE

A.F. Budge (Mining) Limited

P.O. Box 143
Clarkdale, AZ 86324
(602) 634-7712

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

P.O. Box 20878
Wickenberg, AZ 85358
Mobile (602) 376-9056

August 11, 1988

James Matt, P.E.
Chief Deputy Mine Inspector
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627

Dear Mr. Matt:

Thank you for your call yesterday in reponse to our letter of August 4. You indicated during our conversation that we should request a variance to the provisions contained in R11-1-2231(B) of the Administrative Rules and Regulations which states:

> An overflow safety pond or similar retention area shall be constructed to receive and contain all potential overflow from the leach pad and pregnant solution pond.

By this letter we request a variance based on the following information: in the case of the Vulture Mine operations, the barren and pregnant ponds were designed and sized to accommodate all potential overflow. The engineering of the pregnant solution pond is such that at no time during normal operations will the pond be filled in excess of 50% of its capacity. The pond is designed to accommodate run-off during a storm event equivalent to half the 6-hour PMP (Probable Maximum Precipitation) which is roughly equal to the 500-year, 24-hour storm event, i.e. about 5 inches of precipitation.

This request for a variance is not an admission that any violation exists. It remains our position that the construction, as engineered, satisfies the regulation.

Very truly yours,

Carole A. O'Brien

Carole A. O'Brien
Mining Coordinator

OFFICE OF STATE MINE INSPECTOR
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

HEALTH AND SAFETY INSPECTION REPORT

COMPANY NAME: A.F. BUDGE MINING LIMITED

MINE/PLANT NAME: Vulture Mine

MAILING ADDRESS: 4301 N. 75st. Ste.101

CITY: Scottsdale, AZ 85251

MINE/PLANT LOCATION: **RANGE:** _____, **TOWNSHIP:** _____ **SECTION** _____

12 miles southwest of Wickenburg on the Vulture Mine Road.

TELEPHONE NUMBER: 954-4630 **IDENTIFICATION NUMBER:** 10184300

STATUS: X **PERMANENT** ____ **INTERMITTENT** ____ **TEMPORARY/PORTABLE**

THIS REPORT IS BASED ON AN INSPECTION MADE PURSUANT TO ARIZONA REVISED STATUTES SECTION 27-128 & SECTION 27-124

DATE OF INSPECTION: July 14, 1988

TYPE OF OPERATION: Cyanide Leach

PRINCIPAL PRODUCT: Gold

COUNTY: Maricopa

COMPANY OFFICIALS:

Carol A. O'Brien, Operator
Dale Allen, Supt.

INSPECTION PARTY:

Carol O'Brien, Operator
Dale Allen, Supt.
Larry Hanson, Advisor

JAMES MATT, P.E.
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

NUMBER OF EMPLOYEES: 3

cc: A. F. BUDGE MINING LIMITED
srf

A.F. BUDGE MINING LIMITED
Vulture Mine
5/14/88

VIOLATIONS OF RULES AND REGUALTIONS OF STATE OF ARIZONA MINING CODE

1. R11-1-223B An overflow safety pond shall be constructed to receive runoff or overflow from the pregnant solution and the barren pond. The pregnant and barren ponds should be small and shallow to reduce the hazard potential from an employee slipping and falling into the pond, by 8/10/88.

OBSERVATIONS:

Most of this operation is still in the construction phase. The following safety items should be operational before leaching starts.

1. R11-1-2202 First Aid Training is required for all employees.

2. R11-1-2203 Cyanide First Aid procedures shall be posted.

3. R11-1-220 At least two (2) cyanide antidote kits shall be kept at the property.

4. R11-1-2207 A safety shower and eyewash facility and fresh water washdown hose shall be provided near the mixing area.

5. R11-1-2216 Color coding shall be used on lines and valves containing cyanide solution and fresh water.

6. R11-1-2218 An audible HCN warning device shall be installed in any building where cyanide solutions are present.

7. R11-1-2219 An adequate ventilation system shall be provided in buildings where cyanide solutions are present.

8. R11-1-2228 Warning signs shall be posted on gates, at each corner and at 100' intervals on the fence. Signs shall be legible from 50'.

Conflict with DEQ permit No. G-0090-07 Paragragh C.1

"In the event of a spill". Neutralized refers to the PH of the solution. When we wantto treat a cyanide solutio to render the cyanide harmless we "oxidize" the cyanide. We do not use a calcium hypochlorite solution in excess of 1%. A 10% solution when combined with NaCN will produce cyanagen chloride, a gas more hazardous than HCN.
Also calcium hypochlorite must be stored dry. A solution is a strong oxidizer and a hazard to employees or anyone coming in contact with it.

CONTINUED:

A.F. BUDGE MINING LIMITED
Vulture Mine
5/14/88

VIOLATIONS OF RULES AND REGULATIONS OF STATE OF ARIZONA MINING CODE

Paragragh D.1.C. Past Closure Plan

We do not add hypochlorite to the pad material. Calcium hypochlorite does not have any preferential reaction with cyanide. It will oxidize anything it contacts. The pad will contain elements, such as such as sulphur, that will have a preferential reaction with hypochlorite. This will deter the oxidation of the cyanide and prolong the conclusion of the oxidation of the cyanide.

The publication "Post Operationg Treatment of Cyanide,(CN) Solutions and Leaaching Operations" gives complete directions for oxidizing cyanide safety. Another option would be to use hydrogen peroxide that hasbeen buffered to safely react with cyanide.

/s/ JAMES MATT, P.E.
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

DeCONCINI McDONALD BRAMMER YETWIN & LACY
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

EVO DeCONCINI (1901-1986)

JOHN R. McDONALD
RICHARD M. YETWIN
DINO DeCONCINI
WILLIAM B. HANSON
DAVID C. ANSON
SPENCER A. SMITH
DENISE M. BAINTON
LUIS A. OCHOA
GARY F. URMAN
J. WM. BRAMMER, JR.
JOHN C. LACY
ROBERT M. STRUSE
JOHN C. RICHARDSON
JAMES A. JUTRY
MICHAEL R. URMAN
KAREN J. NYGAARD
SUSAN E. MILLER

2525 EAST BROADWAY BOULEVARD, SUITE 200
TUCSON, ARIZONA 85716-5303
(602) 322-5000
FAX: (602) 322-5585

3030 NORTH THIRD STREET, SUITE 200
PHOENIX, ARIZONA 85012-3002
(602) 241-0100
FAX: (602) 241-8533

August 24, 1988

PLEASE REPLY TO TUCSON

Carole O'Brien
A.F. Budge (Mining) Limited
4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

Re: **Larry Beale Letter**

Dear Carole:

Enclosed is the letter for Tony Budge to send to Larry Beale per our discussion on the telephone.

Very truly yours,

John C. Lacy

bpm

Enclosure

0824880205.jcl2.840127

BUDGE

A.F. Budge (Mining) Limited

P.O. Box 143
Clarkdale, AZ 86324
(602) 634-7712

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

P.O. Box 20878
Wickenberg, AZ 85358
Mobile (602) 376-9056

August 24, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Larry W. Beale
President
V.M.P., Inc.
Wickenburg, AZ 85358

Re: **Production Bonus; Option and Lease Agreement Dated July 1, 1984, as Amended by First Amendment to Option and Lease Agreement Effective February 1, 1985**

Dear Mr. Beale:

You recently inquired about the payment of a production bonus arising out of the current efforts of A. F. Budge (Mining) Limited to commence a reprocessing operating on mineral tailings near the Vulture Mine site.

Under the terms of subsection g of Section 4 of the referenced agreement as amended, if Budge elects to commence mineral production on the Property, V.M.P. is to be paid a one-time production bonus of $75,000. The commencement of production occurs when:

> . . . Budge commits to the expenditure of funds for a full-scale development of the Property based on the conclusions of a feasibility study and shall not include a pilot plant, bulk sampling or other large volume metallurgical or mine testing. The production bonus shall be paid on or before 30 days after Budge's announcement to its stockholders that production will commence.

The activities that Budge is presently completing concerns the permitting of activities to reprocess mine tailings from the

Pit Gold patented mining claim and from within portions of the old Vulture City Townsite.

The payment of the production bonus is contingent upon "a full-scale development of the Property" and the reprocessing of the tailings is not a "mining operation" in the strict sense of the word although V.M.P. is certainly entitled to royalties on metal values recovered from the tailings. Further, if such processing were considered full-scale mining, such a construction might cause considerable problems in the long-range development of the Property because once "production" commences, the term is fixed on the continuation of production. As you know, the reprocessing of the tailings is a relatively short-term activity, and we both hope that the long-term value from the Property will be from mining of ore from under the Property. It thus seems clear to us that the intent of the parties was that the full-scale production would constitute a <u>mining</u> operation and not a short-term reprocessing operation of the mine tailings.

I look forward to our continued association and hope that our activities can turn up mineralization sufficient to undertake full-scale mining operation of the V.M.P. property in the near future.

Very truly yours,

A. F. Budge

bpm

c: Mr. Larry W. Beale
1440 E. Purdue
Phoenix, AZ 85020

Office of State Mine Inspector

1616 W. Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

August 19, 1988

Ms. Carole O'Brien
4301 North 75th Street, Suite 101
Scottsdale, Arizona 85251

Dear Ms. O'Brien:

SUBJECT: Vulture Mine

Your letter of August 11, 1988, requesting an Exception (Variance) to Rule R11-1-2231B has been received.

Your request will initiate an Exception (Variance) investigation and report. This report, along with any additional information requested by the agency, will be the basis of determining if the Exception (Variance) will be granted or denied.

You will be notified in writing of our decision upon completion of our report.

Please do not hesitate to contact me whenever you need additional information.

Sincerely yours,

James H. McCutchan, C.P.M.
State Mine Inspector

James R. Matt, P.E.
Cheif Deputy Mine Inspector

JHM/jo

BUDGE

A.F. Budge (Mining) Limited

P.O. Box 143
Clarkdale, AZ 86324
(602) 634-7712

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

P.O. Box 20878
Wickenberg, AZ 85358
Mobile (602) 376-9056

August 4, 1988

James H. McCutchan
State Mine Inspector
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627

Re: Health and Safety Inspection Report
Vulture Mine, 14 miles south of Wickenburg

Dear Mr. McCutchan:

We have reviewed the Health and Safety Inspection Report concerning the the Vulture Mine made by James Matt, P.E. and Angel Olvera, dated July 14, 1988. We appreciate the observations made by your team and I am enclosing a copy of a letter prepared by Sergent, Hauskins & Beckwith Consulting Geotechnical Engineers, addressing the safety issue relating to our ponds. The plan proposed by our consultants is being implemented.

The report cited a violation of Administrative Rules and Regulations R11-1-2231(B) and your representatives have suggested that an additional separate safety pond be constructed to receive run-off or overflow from the pregnant solution pond and the barren pond. The provisions of the applicable regulation states:

> An overflow safety pond or similar retention area shall be constructed to receive and contain all potential overflow from the leach pad and pregnant solution pond.

In the case of the Vulture Mine operations, the barren and pregnant ponds were designed and sized to accommodate all potential overflow. The engineering of the pregnant solution pond is such that at no time during normal operations will the pond be filled in excess of 50% of its capacity. The pond is designed to accommodate run-off during a storm event equivalent to half the 6-hour PMP (Probable Maximum Precipitation) which is roughly equal to the 500-year, 24-hour storm event, i.e. about 5 inches of precipitation. Therefore, it is our position that the construction as engineered satisfies the regulation.

continued...

However, we would certainly be willing to consider the construction of such an overflow pond at some time in the future if operations at the facility are expanded to such an extent that normal operating levels exceed 50% capacity.

Your comments and suggestions regarding other safety measures are very much appreciated. It is our intention to comply with all rules and regulations regarding the safety of our employees and the protection of the environment. Your comments related to the conflict between your regulations and our permit with the Department of Environmental Quality are disturbing, however, and I would appreciate your assistance in clarifying these specific items with DEQ. We will adopt whatever procedures as will be acceptable to all concerned using the best available technology for effectively controlling spills and "neutralizing" (not being used in the chemical definition sense) the cyanide.

Sincerely yours,

Carole A. O'Brien
Mining Coordinator

encls.

OFFICE OF STATE MINE INSPECTOR
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627
(602) 255-5971

HEALTH AND SAFETY INSPECTION REPORT

COMPANY NAME: A.F. BUDGE MINING LIMITED

MINE/PLANT NAME: Vulture Mine

MAILING ADDRESS: 4301 N. 75st. Ste.101

CITY: Scottsdale, AZ 85251

MINE/PLANT LOCATION: **RANGE:** _____, **TOWNSHIP:** _____ **SECTION** _____

12 miles southwest of Wickenburg on the Vulture Mine Road.

TELEPHONE NUMBER: 954-4630 **IDENTIFICATION NUMBER:** 10184300

STATUS: X **PERMANENT** _____ **INTERMITTENT** _____ **TEMPORARY/PORTABLE**

THIS REPORT IS BASED ON AN INSPECTION MADE PURSUANT TO ARIZONA REVISED STATUTES SECTION 27-128 & SECTION 27-124

DATE OF INSPECTION: July 14, 1988

TYPE OF OPERATION: Cyanide Leach

PRINCIPAL PRODUCT: Gold

COUNTY: Maricopa

COMPANY OFFICIALS:
Carol A. O'Brien, Operator
Dale Allen, Supt.

INSPECTION PARTY:
Carol O'Brien, Operator
Dale Allen, Supt.
Larry Hanson, Advisor

NUMBER OF EMPLOYEES: 3

JAMES MATT, P.E.
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

cc: A. F. BUDGE MINING LIMITED
srf

FORM 101-104B REV. 01/88

A.F. BUDGE MINING LIMITED
Vulture Mine
5/14/88

VIOLATIONS OF RULES AND REGUALTIONS OF STATE OF ARIZONA MINING CODE

1. R11-1-223B An overflow safety pond shall be constructed to receive runoff or overflow from the pregnant solution and the barren pond. The pregnant and barren ponds should be small and shallow to reduce the hazard potential from an employee slipping and falling into the pond, by 8/10/88.

OBSERVATIONS:

Most of this operation is still in the construction phase. The following safety items should be operational before leaching starts.

1. R11-1-2202 First Aid Training is required for all employees.

2. R11-1-2203 Cyanide First Aid procedures shall be posted.

3. R11-1-220 At least two (2) cyanide antidote kits shall be kept at the property.

4. R11-1-2207 A safety shower and eyewash facility and fresh water washdown hose shall be provided near the mixing area.

5. R11-1-2216 Color coding shall be used on lines and valves containing cyanide solution and fresh water.

6. R11-1-2218 An audible HCN warning device shall be installed in any building where cyanide solutions are present.

7. R11-1-2219 An adequate ventilation system shall be provided in buildings where cyanide solutions are present.

8. R11-1-2228 Warning signs shall be posted on gates, at each corner and at 100' intervals on the fence. Signs shall be legible from 50'.

Conflict with DEQ permit No. G-0090-07 Paragragh C.1

"In the event of a spill". Neutralized refers to the PH of the solution. When we wantto treat a cyanide solutio to render the cyanide harmless we "oxidize" the cyanide. We do not use a calcium hypochlorite solution in excess of 1%. A 10% solution when combined with NaCN will produce cyanagen chloride, a gas more hazardous than HCN.
Also calcium hypochlorite must be stored dry. A solution is a strong oxidizer and a hazard to employees or anyone coming in contact with it.

CONTINUED:

A.F. BUDGE MINING LIMITED
Vulture Mine
5/14/88

VIOLATIONS OF RULES AND REGULATIONS OF STATE OF ARIZONA MINING CODE

Paragragh D.l.C. Past Closure Plan

We do not add hypochlorite to the pad material. Calcium hypochlorite does not have any preferential reaction with cyanide. It will oxidize anything it contacts. The pad will contain elements, such as such as sulphur, that will have a preferential reaction with hypochlorite. This will deter the oxidation of the cyanide and prolong the conclusion of the oxidation of the cyanide.

The publication "Post Operationg Treatment of Cyanide,(CN) Solutions and Leaaching Operations" gives complete directions for oxidizing cyanide safety. Another option would be to use hydrogen peroxide that hasbeen buffered tosafely react with cyanide.

/s/ **JAMES MATT, P.E.**
CHIEF DEPUTY MINE INSPECTOR

ANGEL OLVERA
DEPUTY MINE INSPECTOR

BUDGE

A.F. Budge (Mining) Limited

P.O. Box 143
Clarkdale, AZ 86324
(602) 634-7712

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

P.O. Box 20878
Wickenberg, AZ 85358
Mobile (602) 376-9056

August 4, 1988

James H. McCutchan
State Mine Inspector
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627

Re: Health and Safety Inspection Report
Vulture Mine, 14 miles south of Wickenburg

Dear Mr. McCutchan:

We have reviewed the Health and Safety Inspection Report concerning the the Vulture Mine made by James Matt, P.E. and Angel Olvera, dated July 14, 1988. We appreciate the observations made by your team and I am enclosing a copy of a letter prepared by Sergent, Hauskins & Beckwith Consulting Geotechnical Engineers, addressing the safety issue relating to our ponds. The plan proposed by our consultants is being implemented.

The report cited a violation of Administrative Rules and Regulations R11-1-223l(B) and your representatives have suggested that an additional separate safety pond be constructed to receive run-off or overflow from the pregnant solution pond and the barren pond. The provisions of the applicable regulation states:

> An overflow safety pond or similar retention area shall be constructed to receive and contain all potential overflow from the leach pad and pregnant solution pond.

In the case of the Vulture Mine operations, the barren and pregnant ponds were designed and sized to accommodate all potential overflow. The engineering of the pregnant solution pond is such that at no time during normal operations will the pond be filled in excess of 50% of its capacity. The pond is designed to accommodate run-off during a storm event equivalent to half the 6-hour PMP (Probable Maximum Precipitation) which is roughly equal to the 500-year, 24-hour storm event, i.e. about 5 inches of precipitation. Therefore, it is our position that the construction as engineered satisfies the regulation.

continued...

However, we would certainly be willing to consider the construction of such an overflow pond at some time in the future if operations at the facility are expanded to such an extent that normal operating levels exceed 50% capacity.

Your comments and suggestions regarding other safety measures are very much appreciated. It is our intention to comply with all rules and regulations regarding the safety of our employees and the protection of the environment. Your comments related to the conflict between your regulations and our permit with the Department of Environmental Quality are disturbing, however, and I would appreciate your assistance in clarifying these specific items with DEQ. We will adopt whatever procedures as will be acceptable to all concerned using the best available technology for effectively controlling spills and "neutralizing" (not being used in the chemical definition sense) the cyanide.

Sincerely yours,

Carole A. O'Brien
Mining Coordinator

encls.

BUDGE

A.F. Budge (Mining) Limited

P.O. Box 143
Clarkdale, AZ 86324
(602) 634-7712

4301 North 75th Street
Suite 101
Scottsdale, AZ 85251-3504

(602) 945-4630
FAX (602) 949-1737

P.O. Box 20878
Wickenberg, AZ 85358
Mobile (602) 376-9056

August 4, 1988

James H. McCutchan
State Mine Inspector
1616 West Adams, Suite 411
Phoenix, Arizona 85007-2627

Re: Health and Safety Inspection Report
Vulture Mine, 14 miles south of Wickenburg

Dear Mr. McCutchan:

We have reviewed the Health and Safety Inspection Report concerning the the Vulture Mine made by James Matt, P.E. and Angel Olvera, dated July 14, 1988. We appreciate the observations made by your team and I am enclosing a copy of a letter prepared by Sergent, Hauskins & Beckwith Consulting Geotechnical Engineers, addressing the safety issue relating to our ponds. The plan proposed by our consultants is being implemented.

The report cited a violation of Administrative Rules and Regulations R11-1-2231(B) and your representatives have suggested that an additional separate safety pond be constructed to receive run-off or overflow from the pregnant solution pond and the barren pond. The provisions of the applicable regulation states:

> An overflow safety pond or similar retention area shall be constructed to receive and contain all potential overflow from the leach pad and pregnant solution pond.

In the case of the Vulture Mine operations, the barren and pregnant ponds were designed and sized to accommodate all potential overflow. The engineering of the pregnant solution pond is such that at no time during normal operations will the pond be filled in excess of 50% of its capacity. The pond is designed to accommodate run-off during a storm event equivalent to half the 6-hour PMP (Probable Maximum Precipitation) which is roughly equal to the 500-year, 24-hour storm event, i.e. about 5 inches of precipitation. Therefore, it is our position that the construction as engineered satisfies the regulation.

continued...

However, we would certainly be willing to consider the construction of such an overflow pond at some time in the future if operations at the facility are expanded to such an extent that normal operating levels exceed 50% capacity.

Your comments and suggestions regarding other safety measures are very much appreciated. It is our intention to comply with all rules and regulations regarding the safety of our employees and the protection of the environment. Your comments related to the conflict between your regulations and our permit with the Department of Environmental Quality are disturbing, however, and I would appreciate your assistance in clarifying these specific items with DEQ. We will adopt whatever procedures as will be acceptable to all concerned using the best available technology for effectively controlling spills and "neutralizing" (not being used in the chemical definition sense) the cyanide.

Sincerely yours,

Carole A. O'Brien
Mining Coordinator

encls.

BUDGE

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739
FAX: (602) 949-1737

May 9, 1988

John C. Lacy
DeConcini, McDonald, Brammer
Yetwin & Lacy, P.C.
240 North Stone Avenue
Tucson, AZ 85701-1295

Re: Vulture Townsite; Associated Costs

Dear John:

According to my records, we have accumulated costs relating to the acquisition of the Vulture Townsite as follows:

1986 Legal fees	$ 11,135.40
1987 Legal fees	$ 396.63
Appraisal	$ 1,500.00
Purchase	$ 16,400.00

There is also a surveying bill of $5,409.72 which was incurred to locate and mark the corners of the Pit Gold claim and the Townsite, following the purchase. We could also "load up" the total with a few days of both Ben's and my time during this action.

Sincerely,

Carole A. O'Brien

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

May 12, 1988

Fred Coffinger
Maya Construction Company
860 East 19th Street
Tucson, AZ 85719

Dear Fred:

Attached are the map I mentioned along with some other information, and one miscellaneous bit of trivia. There are extra copies of the map and drill hole depths. One map shows in red our "mineable" holes and surrounding area.

I think we should define this boundary for you by some additional sampling. This can be done within next week. Will let you know what the sampling schedule will be and how soon we can define the limits for your machine.

Best regards.

Sincerely,

Carole A. O'Brien

w/ attachments

TO: A. F. Budge

DATE: June 7, 1988

FROM: Dale H. Allen

COPIES: C. O'Brien
R. Short

SUBJECT: PROGRESS REPORT

****

On May 17, I made a two-day tour of the Vulture Mine operation and the UVX property with Carole O'Brien, Frank Millsaps, and Ron Short. At the Vulture property, Don White explained the history and geology of the mine and orebody. We also met with the construction foremen. Frank Millsaps went into the metallurgical development, design, and feasibility of the Vulture property.

At the UVX property, Don White took us for a tour of the underground in order to give us an idea of the orebody and problems we might encounter in mining and treating the ore.

Later that week, I traveled to Nevada and Utah to visit local gold mines. At the Colosseum gold mine near Las Vegas, Nevada, I was able to meet with the superintendent, Jack Conklin, obtain some new assay procedures, names of local vendors, and contacts for local mines. Frank Millsaps toured Barrick's Mercur gold mine with me. We observed their drip system, and obtained knowledge regarding the practicality and benefit of using this system. They also related operational problems and explained what they did to alleviate them. This should shorten our "learning curve" when we go into operation. Mine Superintendent Tom Faddies gave us information regarding the cost of dumps, rate of return, and explained a new procedure for drilling and blasting an old dump to re-leach it. Personnel at both mines indicated a willingness to be of assistance should we need it during start-up.

That afternoon was spent at Dawson Metallurgical Laboratories in Salt Lake City with Bull Dawson and Phil Thompson reviewing the metallurgical background of the Vulture mine and test work done to date. While in Salt Lake City, I picked up the Varian Tetron-5 AA machine from Jim Prudden, which is to be installed at the Vulture operation this month.

VULTURE MINE

Ron Short and I met with Don Robinson of Western Engineering on Sunday, May 30, at the Vulture property to go over plans for the pad and building to be erected at the site. Mr. Robinson was on-site Monday, June 6. Forming has been started and we expect pouring to start June 8.

The first liner of the barren pond is completed and the leak-detection system has been installed by Field Lining Services. The second liner is scheduled for installation June 7. The pregnant pond and leach pad will follow.

We are considering hiring an independent contractor to do the hauling for $100/hr. This would be beneficial and economical for us because besides having a bottom dump, portable welders, water truck, and grader, he has agreed to live on the property, which would provide security, he will maintain the road with his grader, and maintain our generators in return for use of our electricity.

The conveyors, silos, and stacker are scheduled for delivery by next week. The agglomerator pad is scheduled for completion the week of June 13. The agglomerator needs to be unloaded by crane or cherry picker. There is nothing available locally, so arrangements will be made to have one driven out from Phoenix. The plan is to have the silos and dump hopper on the property at that time in order to utilize the crane to erect the silos and put the hopper in place.

Delivery of 5000+ ft of plastic pipe to be installed as fresh water line to the plant is scheduled for June 9. Still to be finalized are the contracts for cement and lime. The Merrill-Crowe system is scheduled for shipment mid-month.

Plans at this time call for employment of an agglomerator operator, plant operator, utility man, and initially a maintenance man. During start-up, it may be necessary to employ additional personnel on a temporary basis. We are also contacting an independent contractor to set-up and check the Varian Tetron-5 AA machine. We may be able to utilize some of the people that will be laid off from the UVX property.

At this point, we are planning to agglomerate the tails and start stacking in mid- to late-July. Solution flow should start the first part of August. We hope to pour our first bullion mid-August.

DHA:vaa

MAYA
CONSTRUCTION COMPANY
GENERAL CONTRACTORS

21 April 1988

A.F. Budge (Mining) Limited
7340 East Shoeman Lane
Suite 111 "B" (E)
Scottsdale, Arizona 85251-3335

ATTN: Ms. Carole A. O'Brien

RE: Heap Leach Facility
Vulture Mine
Maya Job No. 6610

Gentlemen/Ladies:

As required by Section 28 of the Agreement, our project superintendent will be Mr. Floyde Willett.

All contractual documents and amendments thereto will be signed by an authorized officer of the company per our corporate policies.

If you have any questions please call me at 792-9941.

Very truly yours,

MAYA CONSTRUCTION COMPANY

Fred Coffinger

Fred Coffinger
Project Manager

/djd
6610/L-1

cc: Sergent, Hauskins & Beckwith Geotechnical Eng, ATTN: Mr. Phillip T. LaHue, Field, File (2)

VULTURE OPERATING COSTS
Based on 1,000 tpd

LABOR

Title	No.	Rate	Fringe	Hours /day	Days /week	Cost /week	Cost /ton
Manager	1	$55,000	30%	10	5.5	$1,375	$0.28
Eq.Operator Maintenance ~~& Watchman~~ (Barry Smith)	1	$100.00		10	5	$5,000	$1.00
Agg.Operator	1	$13.00	30%	10	5	$845	$0.17
Rec.Operator (Erich)	1	$13.00	30%	10	5	$845	$0.17
Utility (Tom)	2	$10.00	30%	8	5	$1,300	$0.26
~~Mechanic~~ (Ted)	~~1~~	$12.00	30%	8	5	$780	$0.16
				Totals		$10,145	$2.03

FUEL & REAGENTS

Fuel, power	$0.21
Fuel, melting	$0.01
Cement	$0.54
Cyanide	$0.75
Lime	$0.15
Water Chemicals	$0.03
Zinc Dust	$0.06
Lead Nitrate	$0.01
Precoat	$0.01
Fluxes, melting	$0.01
Totals	$1.78

EQUIPMENT RENTALS
Generators at $680 and $1400 per month $0.10

ADVANCE ROYALTY: V.M.P.INC.

Based on $5,500 per month $0.28

REFINING CHARGES
136.5 ounces per week
Based on minimum treatment charge of $250 $0.05

TOTAL OPERATING COSTS $4.24

(Dan Kentucky)

VULTURE OPERATING COSTS
Based on 1,200 tpd

LABOR

Title	No.	Rate	Fringe	Hours /day	Days /week	Cost /week	Cost /ton
Manager	1	$55,000	30%	10	5.5	$1,375	$0.23
Eq.Operator Maintenance & Watchman	1	$100.00		10	5	$5,000	$0.83
Agg.Operator	1	$13.00	30%	10	5	$845	$0.14
Rec.Operator	1	$13.00	30%	10	5	$845	$0.14
Utility	2	$10.00	30%	8	5	$1,300	$0.22
Mechanic	1	$12.00	30%	8	5	$780	$0.13
				Totals		$10,145	$1.69

FUEL & REAGENTS

Fuel, power	$0.21
Fuel, melting	$0.01
Cement	$0.54
Cyanide	$0.75
Lime	$0.15
Water Chemicals	$0.03
Zinc Dust	$0.06
Lead Nitrate	$0.01
Precoat	$0.01
Fluxes, melting	$0.01
Totals	$1.78

ADVANCE ROYALTY: V.M.P.INC.

Based on $5,500 per month $0.23

EQUIPMENT RENTALS

Generators at $680 and $1400 per month $0.09

REFINING CHARGES

136.5 ounces per week
Based on minimum treatment charge of $250 $0.04

TOTAL OPERATING COSTS $3.83

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

April 27, 1988

Mr. Dale H. Allen
74 Ridge Road
Marquette, MI 49855

Dear Mr. Allen:

This letter will confirm our offer to you for the position of Production Manager for A.F. Budge (Mining) Limited at a salary of $55,000 per year, plus appropriate fringe benefits including Group Medical/Insurance, currently carried under a policy with The Travelers, and a pension plan, details of which we will work out to our mutual satisfaction at a later date. In addition, we will supply you with an appropriate vehicle.

Initially, you will be in charge of plant construction and processing at the Vulture Heap Leach Facility, which is located approximately 14 miles south of Wickenburg.

We look forward to a mutually beneficial and prosperous relationship.

Very truly yours,

Anthony F. Budge
President

AFB:cao

DataChem

ENVIRONMENTAL WASTE REPORT

Date September 8, 1987
Agency Identification Number S87-0504
Account No. 03018

A.F. Budge Mining
7340 East Shoeman Lane
Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
Attention: Joe Fernandez

Telephone (602) 945-4630

Sampling Collection and Shipment

Sampling Site _____ Date of Collection _____

Date Samples Received at DataChem August 21, 1987

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method	Units	Field Number / Lab Number	P-1300 1/2 EG 2160	P-1300 2/2 EG 2161	P-1387 1/2 EG 2162	P-1387 2/2 EG 2163				* Limit of Detection
Arsenic (As) 08/28/1987 206.2 [2]	µg/g		25.	28.	27.	32.				0.5
Barium (Ba) 08/31/1987 208.1 [2]	µg/g		80	60	60	50				10
Cadmium (Cd) 09/03/1987 213.1 [2]	µg/g		6.	6.	6.	7.				1.
Chromium (Cr) 08/31/1987 218.1 [2]	µg/g		37.	43.	20.	20.				5.
Cyanide (CN) 08/26/1987 9012 [1]	µg/g		2.8	3.3	1.9	1.6				0.3
Lead (Pb) 09/03/1987 239.2 [2]	µg/g		530	490	3200	3100				10
Mercury (Hg) 09/03/1987 245.5 [2]	µg/g		0.23	0.24	0.44	0.50				0.06
Selenium (Se) 09/03/1987 270.2 [2]	µg/g		ND*	ND*	0.7	0.8				0.5

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Kaye Marshall
Analyst: Kaye Marshall

Brent E. Stephens
Reviewer: Brent E. Stephens

A. Brent Torgensen
Laboratory Supervisor: A. Brent Torgensen

UBTL

DataChem was formerly known as UBTL

DataChem

ENVIRONMENTAL WASTE REPORT

Date September 8, 1987
Agency Identification Number S87-0504
Account No. 03018

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	P-1300 1/2 EG 2160	P-1300 2/2 EG 2161	P-1387 1/2 EG 2162	P-1387 2/2 EG 2163				* Limit of Detection
Silver (Ag) 09/03/1987 µg/g 272.1 [2]		2.	2.	2.	ND*				1.

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
1 Analyses completed on or before this date.

** Parameter not analyzed (See comments page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page).

DataChem

ENVIRONMENTAL WASTE REPORT

Date September 8, 1987
Agency Identification Number S87-0504

Method Index **-- Method Reference --**

[1] SW-846 "Test Methods for Evaluating Solid Waste", July 1982

[2] EPA-600/4-79-020 "Methods for Chemical Analysis of Water and Wastes", March 1983

DataChem

ANALYTICAL REQUEST FORM

587-0504

Purchase Order No. _____

Date 8/21/87

Corporate/Agency Name Dawson Metallurgical Laboratories

Address 5217 Major St.
Murray, UT 84107-0685

Person to Contact Phillip Thompson Telephone 262-0922

Billing Address Mr. Joe Fernandez, A.F. Budge Mining
7340 E. Shoeman Ln. Suite 111 "B" (E) Scottsdale, AZ 85251-3335
(602) 945-4630

Sample Collection

Sampling Site _____

Industrial Process _____

Date of Collection _____ Time Collected _____

Date of Sample Shipment to DataChem _____

Request for Analyses

Data Chem Use Only	Sample Field Number	Type*	Sample Volume (Liters)	Analyses Requested
EG2160	P-1300 1/2			CN, As, Ba, Cd, Cr, Pb, Hg, Se, Ag
2161	P-1300 2/2			
2162	P-1387 1/2			
2163	P-1387 2/2			

*Specify: Solid sorbent tube, e.g. Charcoal; Filter type; Impinger solution; Bulk Sample; Blood; Urine; Tissue; Soil; Water; Other

Comments _____

Possible Interfering Compounds _____

Requested by _____

520 Wakara Way / Salt Lake City, Utah 84108 / 1-800-321-6451 or 801-583-3600

CHAIN OF CUSTODY RECORD

Date Extracted: _____
Date Digested: _____
Date Analyzed: _____

Account:	DataChem Set ID:	Sponsor:	SPLITS					
3018	587-050Y	Dawson Met. Labs		CN	As, Ba, Cr, Cd Hg, Pb, Se, Ag			
Field Comment:								

Date Sampled	Field ID Number	DataChem Sample Number(s)	Sample Matrix	Number of Containers	Remarks
—	P-1300 1/1	EG2160	Waste	2	1- CN, 1- Metals
	P-1300 1/2	2161			
	P-1317 1/1	2162			
	P-1317 1/2	2163			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	8/21/87 0830	Room 229	Rm 229	8/21/87 20:00	Kaye Marshall
Kaye Marshall	8/25/87 20:00	AA Metals	AA Metals	9/8/87 11:00	Sandra Storage

Final Disposition: _____ Signature: _____

A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335
(Business Office)
Telephone: (602) 945-4630
Telex: 751739

April 19, 1988

Mr. George A. Matthews, Jr.
President
C.E.C. Industries Corp.
350 West 300 South
P.O. Box 747
Salt Lake City, UT 84110

Dear George:

Enjoyed having you and Bob visit in Scottsdale again. It doesn't seem possible a week has passed already. Thank you again for lunch.

As we discussed during our meeting, we require some refinements and adjustments to your original proposal of March 29, particularly the weekly output, operating availability and design extraction.

Mr. Budge is expected in town later this week and we will review your proposal in light of our discussions last week. However, please be aware of the possibility that Mr. Budge may decide to reject your proposal and operate the project himself. As soon as any decision is made, I will contact you. That decision should be made by the latter part of next week.

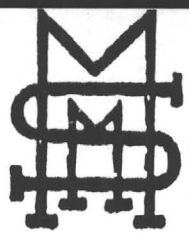
Best regards.

Sincerely,

Carole A. O'Brien

Carole A. O'Brien
Geologist & Mining Coordinator

bc: Frank Millsaps



MILLSAPS MINERAL SERVICE, INC.

November 7,1986

Mr. Ben Dickerson 111
DMEA, Ltd.
Suite 111 B East
7340 Shoeman Lane
Scottsdale, Arizona 85251

Dear Ben:

Enclosed are two capital cost estimates for the gold recovery plant for treating the Vulture tails. Either scheme will also work for the mine ore when you get to it. The cost estimates are based upon the criteria established when I was in your office on October 14th. A flowsheet is also inclosed.

Although we had agreed upon a carbon system, and the flowsheet shows carbon adsorption I also worked up an estimate using zinc dust (Merrill Crowe) precipitation. Carbon is more forgiving of variations in operation, but retains more metal in inventory than does zinc precipitation.

Both estimates are based upon using new U.S. built equipment. As the design criteria calls for all possible equipment to be skid mounted as systems, including all supports, stairs, handrails, platforms, piping and wiring, ready to be set in place and final connections being made, any savings one could make by buying used equipment would be consumed by extra installation labor and engineering to fit it in. All systems will be pre engineered.

One potential for saving capital on the carbon circuit is to contract the stripping. The only custom stripping service that I know of is " Metal Research Corp." rte 1, box 322 Kimberly, Idaho 83341. I understand they charge $1500 per ton for stripping. Depending on the loading of the carbon this can run from about $ 2.50 to $10.00 per ounce. It makes using this service uneconomic for silver. They do not offer regeneration service so it is important that you always get your own carbon back as carbon is only good for about 8 cycles before it must be regenerated. I also understand that they sometimes don't do a complete job on stripping so you would have to be sure you got your carbon back. You might want to investigate this as it could save upwards of $ 60,000 capital.

On the zinc precipitation there is a market for the precipitation. I understand that Englehardt buys them, or will melt them on a toll basis. However there is very little capital to be saved using this plan, and it limits your freedom in marketing the metal.

If you have any questions or need more information please call.

Very truly yours,

Frank W. Millsaps

A.F.BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Cost Summary

Carbon Adsorption Circuit.

A: Equipment at Site		
Equipment FOB Factory	$ 280,500	
Est Freight $12.50/cwt	12,500	
Sales Tax @ 6.5%	18,250	
Purchasing @ 6%	16,800	
Total at Site		$328,050
B: Building: 25' x 25" preengineered, for gold recovery, melting & security.		31,250
C: Electrical, includes distribution, switch gear, and lighting: does not include generation		6,000
D: Process piping in plant area		2,000
E Spray piping		7,500
F: Pad, 60,000 sq.ft @ $1.00		60,000
G: Ponds,75'x230'x10' @ 3.05/cu.yd		19,500
H: Final Erection		7,000
Total A through H		$ 461,300
I: Engineering		15,000
J: Contingency @ 10%		46,150
TOTAL Estimated Capital Cost		$ 522,450

A.F. BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Cost Summary

Zinc Precipitation Circuit

A: Equipment at Site		
Equipment F.O.B. Factory	$258,250	
Est. Freight @ $12.50/cwt	11,550	
Sales Tax @ 6.5%	16,800	
Purchasing @ 6%	15,500	
Total at site		$ 302,600
B: Building 25x20 preengineered, for precipitation, melting and security		25,000
C: Electrical, includes distribution, switch gear, lights; does not include generation		6,000
D: Process piping in plant		2,000
E: Spray Piping		7,500
F: Pad, 60,000 sq.ft. @ $1.00/ft		60,000
G: Ponds, 75' x 230' x 10" @ $3.05/cu yd		19,500
H: Final Erection		6,500
Total a Through H		$ 429,100
I: Engineering		15,000
J: Contingency @ 10%		42,900
TOTAL Estimated Capital Cost		$ 487,000

A.F.BUDGE (MINING) LIMITED
Vulture tailings Treatment Facility
Capital Cost Estimate

Design Criteria

All equipment, in as much as possible, will be preassembled and skid mounted for ease of installation. All wiring and piping will be completed on the individual skids so that they only require connecting to each other and the utilities in the plant. NO concrete foundations are to be required.

The recovery plant will be designed to operate with minimum staffing. It is envisioned that on the dark shifts only one person will be at the plant.

The piping will be designed for 150 gpm, with the spray system to deliver 0.004 gpm per square foot of heap area.

The electrical system will be designed for on site generation with current being supplied at 440 volts, 3 phase, 60 cycles. Lighting and utility service will be 110 volts, single phase 60 cycle. The demand will be about 86 kwa, it is suggested that the unit be 125 kw.

Conveyors are to be designed to start fully loaded. The conveyors and the agglomerated are to be designed to produce 1000 tons of leach feed in 8 hours.

The gold recovery plant will be designed in systems, to minimize the installation and engineering costs. As an example in the carbon adsorption circuit the carbon columns will consist of the columns, all supports, platforms, stairs, railing, screens, piping, wiring and motor controls. All motors will be equipped with local on/off switches. The stripping package will consist of three stripping vessels, the solution heat tank, a steam generator, the electrowinning cells, the rectifier,pumps, eductors, piping, wiring, motor controls and on/off switches. In the zinc precipitate circuit: the clarifying filter will consist of the filter, a precoat mixing tank, a precoat pump, the flush pump if needed.piping, wiring, instrumentation as required, motor controls and stop start switches; the precipitation unit will consist of the deaeration tower, zinc dust feeder and cone, the precipitation pump, piping wiring, instrumentation, motor controls and on/off switches.

A.F. BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Process Description:

The Vulture tailings located near Wickenburg Arizona consists of principally stamp mill tailings with minor amounts of slimes which have been washed into the deposit over the years. Metallurgical test work indicates that satisfactory recovery can be realized in about 12 days by heap leaching. However to be amenable to heap leaching the tailings must be agglomerated with cement and lime. This is common practice in western United States.

Expected production is 1000 tpd, with most of the material handling being done on dayshift. It is envisioned that the heaps will be built in stages or successive lifts each lift being twelve feet high. The heaps will be sprayed with cyanide bearing barren solution which will be circulated back to the barren storage pond from the gold recovery circuit. The spray solution will be applied at the rate of 0.004 gpm/sq.ft of heap area. It is envisioned that the spraying will be intermittent to minimize evaporation

The pregnant solution, after percolating through the heap will be collected in an impervious lined pond holding about 400,000 gallons of solution. This size pond allows for settling of suspended solids, and mixing of the solution to provide a more uniform feed to the recovery plant.

A. Carbon Adsorption Circuit.

The pregnant solution will be drawn for the pond by a centrifugal pump and pumped through four carbon columns in series. These columns will each contain 500 pounds of 6 x 16 mesh activated coconut shell carbon. The solution flow through the columns , about 35 gallons per square foot ,will expand the carbon bed by 100 %. The columns will be about 28 inches in diameter and 8 feet tall. The solution flow will be counter current to the advancing carbon. The carbon will be advanced once per 24 hours. The solution after passing through all four columns will be barren and be sent to the barren solution pond for recycling to the heaps.

The carbon in the carbon columns will be loaded to about 200 ounces of metal per ton of carbon. The carbon will be transported from the first column to be stripped , with the carbon from each of the succeeding columns being advanced in turn. The regenerated and new carbon will be placed in the last column.

The stripping circuit will consist of three ambient pressure stripping vessels. The loaded carbon will be placed in one of these vessels to be stripped.Stripping solution . 1% caustic and 0.5 % cyanide. heated to 190 degrees F will be circulated through the vessel for about 48 hours at the rate of 1.45 bed volumes per hour.

The stripping solution after passing through the carbon will pass into an electrowinning cell where the gold and silver plus mercury will be collected on the steel wool cathode. From the electrowinning cell the solution will return to the solution heating tank to be recycled through the stripping circuit.

The stripped carbon will be educted either to the regeneration furnace. or back to the carbon columns for reloading. The carbon should be regenerated about every three cycles or it will lose too much adsorptive power.

The electrowinning cell will contain several cathodes. the one nearest the feed end will be removed regularly with the others being moved toward the feed end and a fresh cathode being inserted into the discharge end of the cell.

The loaded cathode will be dried. placed in a boat and retorted to remove the mercury. The mercury will be saved for later sale, as a side note the reclamation of mercury will not pay. but must be done to present a healthful environment to the workers.

After the retort has cooled. the sponge is transferred to a crucible with suitable flux and melted. The slag is poured off and the gold is collected in a conical pot. The gold button (Dore') is cleaned and weighed . then packaged and shipped to a refinery, either for sale or to be refined on a toll basis.

B. Zinc Dust Precipitation (Merrill Crowe Process)

The heap leach system is the same for both processes. In the zinc dust precipitation process the pregnant solution from the storage pond is pumped through a clarifying filter. The clarifying filter uses diatomaceous earth as a filter aid. This filter removes all remaining suspended particles. even the minus 5 micron matter. The sludge from the clarifying filter will join the barren solution for return to the barren pond.

The clarified pregnant solution will be drawn into the deaeration tower (Crowe Tower) where the vacuum applied will remove the dissolved oxygen from the pregnant solution.

The deaerated solution will be removed from the tower by the precipitation pump. This pump is of special construction in that it can overcome a negative suction head, and is equipped with a submerged gland to prevent any air leakage. The zinc dust and lead nitrate is educted into the pregnant solution just ahead of the precipitation pump. Zinc dust is normally added in an amount equal to one ounce of zinc for every ounce of metal to be precipitated. The precipitation pump discharge is the feed for the plate and frame filter press. The filter press serves to catch the precipitate, which contains the precious metals, and to dewater the product. The press can be blown with air to dry the precipitates.

When the press is full (indicated by the increase in feed pressure and decreased flow) the system will be shut down and the precipitate removed from the press.after the press is cleaned it is then dressed and returned to service. The precipitate is dried if need be, fluxed and melted into Dore' for shipment to the refinery.

The barren solution from the press, plus the sludge from the clarifying filter is pumped to the barren pond, where it has cyanide and caustic added before being pumped to the heap sprays.

A.F. BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Process Description:

The Vulture tailings located near Wickenburg Arizona consists of principally stamp mill tailings with minor amounts of slimes which have been washed into the deposit over the years. Metallurgical test work indicates that satisfactory recovery can be realized in about 12 days by heap leaching. However to be amenable to heap leaching the tailings must be agglomerated with cement and lime. This is common practice in western United States.

Expected production is 1000 tpd, with most of the material handling being done on dayshift. It is envisioned that the heaps will be built in stages or successive lifts each lift being twelve feet high. The heaps will be sprayed with cyanide bearing barren solution which will be circulated back to the barren storage pond from the gold recovery circuit. The spray solution will be applied at the rate of 0.004 gpm/sq.ft of heap area. It is envisioned that the spraying will be intermittent to minimize evaporation

The pregnant solution, after percolating through the heap will be collected in an impervious lined pond holding about 400,000 gallons of solution. This size pond allows for settling of suspended solids, and mixing of the solution to provide a more uniform feed to the recovery plant.

A. Carbon Adsorption Circuit.

The pregnant solution will be drawn for the pond by a centrifugal pump and pumped through four carbon columns in series. These columns will each contain 500 pounds of 6 x 16 mesh activated coconut shell carbon. The solution flow through the columns , about 35 gallons per square foot ,will expand the carbon bed by 100 %. The columns will be 1bout 28 inches in diameter and 8 feet tall. The solution flow will be counter current to the advancing carbon. The carbon will be advanced once per 24 hours. The solution after passing through all four columns will be barren and be sent to the barren solution pond for recycling to the heaps.

The carbon in the carbon columns will be loaded to about 200 ounces of metal per ton of carbon. The carbon will be transported from the first column to be stripped , with the carbon from each of the succeeding columns being advanced in turn. The regenerated and new carbon will be placed in the last column.

A.F.BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Equipment List
Carbon Adsorption Circuit

Item	Description	Cost
1	Feed Hopper	$ 6,250.00
2	Agglomerator Feed Belt	5,000.00
3	Reagent Feeders	8,400.00
4	Agglomerator	50,000
5	Take away & Curing Belt	5,000
6	Stacker, Radial Non Sluing,lufting	25,000
7	Preg. Solution Pump	3,800
8	Carbon Columns (4)	72,000
9	Barren Solution Pump	3,800
10	Spray Pump	5,500
11	Stripping Circuit	49,000
12	Regeneration Kiln	17,100
13	Retort	25,000
14	Melting Furnace	6,000
TOTAL		$ 280,500

A.F.BUDGE (MINING) LIMITED
Vulture Tailings Treatment Facility
Capital Cost Estimate

Equipment List

Zinc Precipitation Circuit

Item	Description	Cost
1	Feed Hopper	$ 6,250
2	Agglomerator Feed Belt	5,000
3	Reagent Feeders	8,400
4	Agglomerator 6' x30'	50,000
5	Takeaway & Curing Belt	5,000
6	Stacker, Radial	25,000
7	Preg. Solution Pump	3,800
8	Clarifier Filter	32,000
9	Merrill Unit, Includes Deaeration Tower, Precip Pump, Zinc and Lead Nitrate Feeders, Zinc Cone, Piping Wiring, Motor Controls and on/off switches	60,000
10	Filter Press, Plate & Frame	18,000
11	Barren Solution Tank	5,000
12	Barren Solution Pump	3,800
13	Spray Pump	5,500
14	Retort	25,000
15	Melting Furnace	6,000
TOTAL		$ 258,750

DeCONCINI McDONALD BRAMMER YETWIN LACY & ZIMMERMAN
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW

240 NORTH STONE AVENUE
TUCSON, ARIZONA 85701-1295
(602) 623-3411
FAX:(602) 624-0972

2600 NORTH CENTRAL AVENUE, SUITE 1600
PHOENIX, ARIZONA 85004-3016
(602) 248-0036
FAX: (602) 248-8214

EVO DeCONCINI (1901-1986)

JOHN R. McDONALD
RICHARD M. YETWIN
ROBERT M. STRUSE
JOHN C. RICHARDSON
DEBORAH OSERAN
SPENCER A. SMITH
DENISE M. BAINTON
KAREN J. NYGAARD
SUSAN E. MILLER

J. WM. BRAMMER, JR.
JOHN C. LACY
WILLIAM B. HANSON
DAVID C. ANSON
JAMES A. JUTRY
MICHAEL R. URMAN
BERNARD C. OWENS
LUIS A. OCHOA
GARY F. URMAN

DOUGLAS G. ZIMMERMAN
GARY L. LASSEN
DINO DeCONCINI
KENNETH C. SUNDLOF, JR.
DIANE M. MILLER
MATTHEW R. BERENS
JAMES E. CARTER
SHARON M. HENSLEY
D. REX SHUMWAY II
COLLEEN L. FRENCH
NEIL W. THOMSON
JOHN P. LOVINGER

November 10, 1987

PLEASE REPLY TO TUCSON
File No. 860020

Ms. Carole O'Brien
A. F. Budge (Mining) Limited
7340 E. Shoeman Lane, Suite 111 "B" (E)
Scottsdale, AZ 85251-3335

Re: **Unpatented Mining Claims on Vulture City Townsite**

Dear Carole:

You may remember that some time ago this office appealed the decision of the Arizona State Office of the Bureau of Land Management by which the unpatented mining claims staked within the limits of the Vulture City Townsite were declared null and void. The Interior Board of Land Appeals has affirmed the original decision of the Arizona State Office and I have enclosed a copy of the decision.

Inasmuch as the property within the Vulture City Townsite has been acquired by A. F. Budge, I see no reason to pursue this matter any further.

If you have any other thoughts, please let me know. Also, by a copy of this letter to Scott Donaldson, the attorney for V.M.P., Inc., I have notified him of this decision and would request that if, for any reason V.M.P. desires to appeal this order and decision that I be advised immediately.

Very truly yours,

John C. Lacy

bpm

Enclosure
c w/enc: Scott Donaldson
1110870930.jcl2

United States Department of the Interior

OFFICE OF HEARINGS AND APPEALS
INTERIOR BOARD OF LAND APPEALS
4015 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22203

November 3, 1987

IBLA 86-239	:	AMC 246423 et al.
	:	
V.M.P., INC.	:	Mining Claims Declared Null and Void Ab Initio
	:	
	:	Decision Affirmed

ORDER

V.M.P., Inc. (V.M.P.), appeals from a decision dated December 5, 1985, issued by the Arizona State Office, Bureau of Land Management (BLM), which declared four unpatented lode mining claims, AMC 246423, AMC 246424, AMC 246425, and AMC 246428, null and void ab initio because "the public land records show the lands were not open to location of mining claims at the time of their location." The decision further states: "The land encompassed by the mining claims had been patented without a reservation of minerals to the United States. Therefore, the lands are not subject to location under the general mining laws."

BLM records indicate that the lands in question are located within the boundaries of the Vulture City Townsite, patented by Certificate No. 171, dated June 20, 1882. In the statement of reasons for appeal, V.M.P. makes the following arguments:

> (1) the land included within the Townsite was known to be mineral at the time the patent was issued, (2) there has never been any occupancy of the Townsite and the grant therefore is not complete, and (3) there is no conclusive evidence that the Townsite patent as presently indicated on the Bureau of Land Management records is in fact the location of the Townsite.

V.M.P. also states that it is a direct successor to the rights held under mining claims located prior to the townsite patent in the 1870's, but concedes that the mining claims subject to this appeal are relocations which cover "similar ground as held under earlier locations."

The case file contains four amended notices of mining location, each of which states that the claim was relocated by V.M.P. on February 5, 1982. Each notice also states: "If the original location is, at the time of this amendment, ineffective for any reason, it is the intent of the owner that this amended notice be an original Notice of Location." Accompanying the notices is a letter from Harvey W. Smith, President, Del Tierra Engineering and Mining Corp., which states: "In the event the original notices are

declared invalid, then these amended notices shall serve as new re-location notices and it is so stated on the amended notice." BLM's decision lists the location date of the claims as September 24, 1985, the date of the amended notices. Thus, BLM apparently considered the notices to be new relocation notices rather than valid amendments.

We first address the question of whether the notices were valid amended notices of location. A party who alleges that a notice filed is an amendment of any earlier location must present evidence showing that there are no gaps in the chain of title to the original claims where such gaps are apparent on the record. R. Gail Tibbetts v. Bureau of Land Management, 62 IBLA 124 (1982). In the absence of such evidence the purported amendment must be treated as a relocation. Id. While V.M.P. asserts that it is a "direct successor to the rights held under mining claims first located in the 1870's," it has not provided evidence showing a chain of title to the original claims. In the absence of such showing, the purported amendments must be treated as relocations.

In its statement of reasons, V.M.P. does not deny that the BLM records show that the mining claims were located within the townsite, but argues that the townsite is not at the position shown in BLM records. The Department has long held that where the public records of the Department indicate that land is not open to entry, even if the notation is in error, any mining claim thereafter located is null and void ab initio until the records are changed to indicate that the land is available. Junior L. Dennis, 61 IBLA 8 (1981). The validity of this concept, commonly referred to as the "notation rule," was recently upheld in Shiny Rock Min. Corp. v. United States, 825 F.2d 216 (9th Cir. 1987).

As to the absence of a reservation of minerals in the townsite patent, V.M.P. attempts to show that such absence is of no effect here, arguing that its rights antedated the date of the patent. This argument is of no benefit to V.M.P. absent a showing of a chain of title to the original claims. In order to establish that its claims relate back to a time before issuance of the townsite patent, V.M.P. must offer evidence to prove that its claims are the same claims antedating the patent and that a chain of title runs from the original location to V.M.P. See Lynn M. Sheppard, 90 IBLA 23, 25 (1985). V.M.P. has not offered such proof.

Finally, V.M.P. argues that because the townsite was never occupied, the grant was not completed and "a transfer from the probate judge is necessary in order to finally vest individual title that would prevent the subsequent location or initiation of rights under the mining laws." V.M.P. cites no authority in support of this argument, and we do not find it persuasive as to the claims at issue.

We therefore conclude BLM properly declared the mining claims at issue null and void ab initio.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision of the Arizona State Office is affirmed.

John H. Kelly
Administrative Judge

I concur:

Wm. Philip Horton
Chief Administrative Judge

APPEARANCES:

John C. Lacy, Esq.
DeConcini, McDonald, Brammer,
Yetwin and Lacy, P.C.
240 North Stone Avenue
Tucson, Arizona 85701-1295

Anti-Mining Forces Focus On The Comstock Lode

Calif Mining Journ. May

Carole + Ron —

A scarey scenario we want to avoid at U.V.X. with Jerome residents

by Dave W. Parkhurst

County and Lyon County. Both counties have fairly small business and

against mining interests.

M E M O

TO: Ron Short, Carole O'Brien, Anthony Budge
cc: John McKenney, Dale Allen

FROM: Don White, Robert Hodder

DATE: October 11, 1988

SUBJECT: Possibility of gold accidentally leaching from U.V.X. stockpiles

U.V.X. development ore is now being stockpiled on the ground within the mine yard. No plans have been consummated to get it on its way to a smelter. This is cause for concern because continued exposure to the weather may well diminish the precious metal content of the ore piles.

We are now fairly certain that the supergene role in concentrating precious metals at U.V.X. was quite profound. That is, meteoric waters channelled via the Verde Fault played an important part in transporting the metals to their present settings. The silica grit host is very porous and permeable. There is every reason to believe that merely wetting that material could redisolve some of the gold and silver and carry it away as runoff or into the ground beneath the piles.

We recommend against keeping stockpiles through a winter or even exposed to the January rains for risk that the grades will no longer match those of drilling, rib sampling, or car sampling. The best solution to the problem is to minimize holding time and get it to the smelters promptly. Failing that, or as a stopgap in bad weather, piles may be able to be covered with polyethylene sheets weighed down at their edges.

DW:sk