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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: NORTH STAR MINE

ALTERNATE NAMES:

YUMA COUNTY MILS NUMBER: 98

LOCATION: TOWNSHIP 1 S RANGE 17 W SECTION 36 QUARTER SW  
LATITUDE: N 33DEG 17MIN 49SEC LONGITUDE: W 113DEG 58MIN 10SEC  
TOPO MAP NAME: KOFA BUTTE - 15 MIN

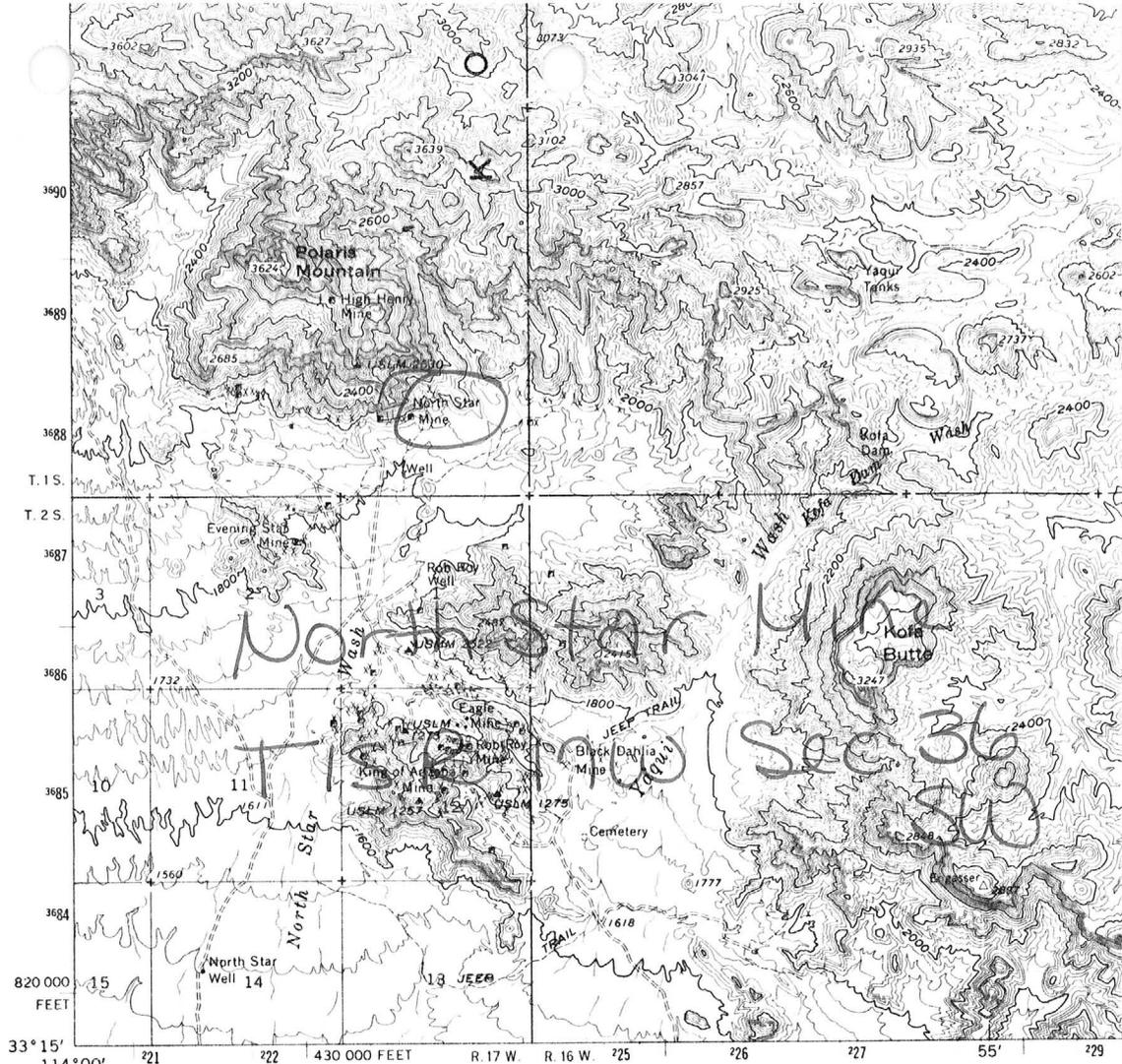
CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD LODE  
SILVER

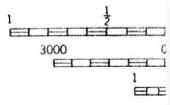
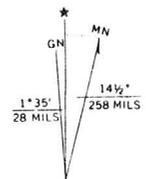
BIBLIOGRAPHY:

ABM BULL. 192, P. 155  
ABM BULL. 134, P. 113  
ABM BULL. 137, P. 139  
ABM BULL. 140, P. 104  
ADMMR NORTH STAR MINE FILE  
USGS BULL 620-H  
USBM IC 8969, "GOLD & SILVER LEACHING", p. 16  
DAHN, JERRY, ADMMR GEO FILE



3150' (CASTLE DOME MTS.)

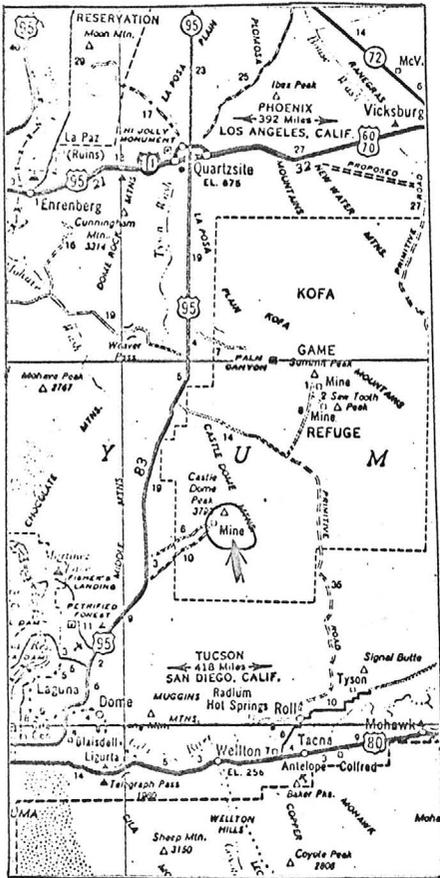
Mapped, edited, and published by the Geological Survey  
 Control by USGS and USC&GS  
 Topography by photogrammetric methods from aerial photographs taken 1956 and planetable surveys 1962  
 Polyconic projection. 1927 North American datum  
 10,000-foot grid based on Arizona coordinate system, west zone  
 1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue  
 Where omitted, land lines have not been established



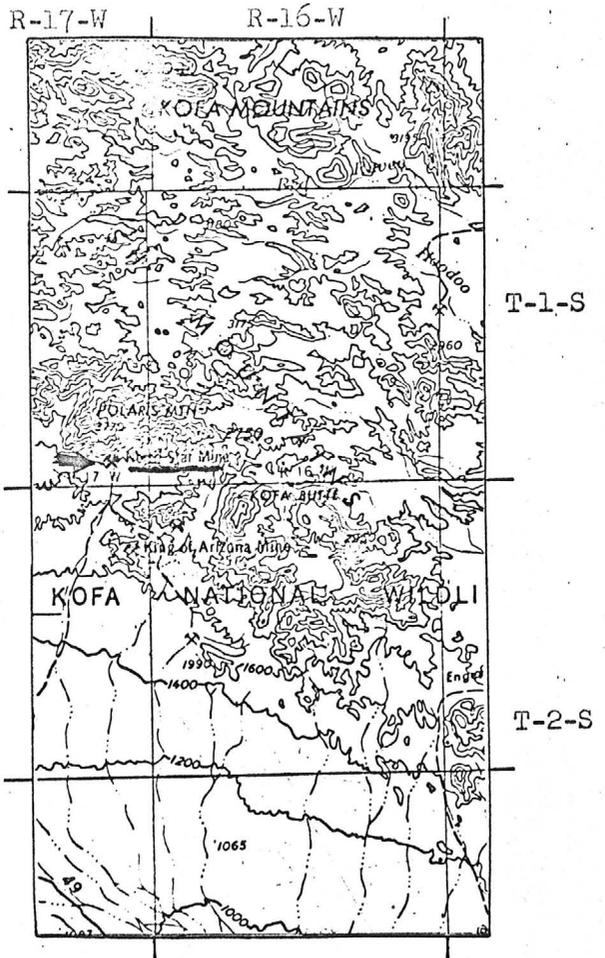
UTM GRID AND 1962 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

FOR SALE BY  
A FC

Kofa Butte 15'

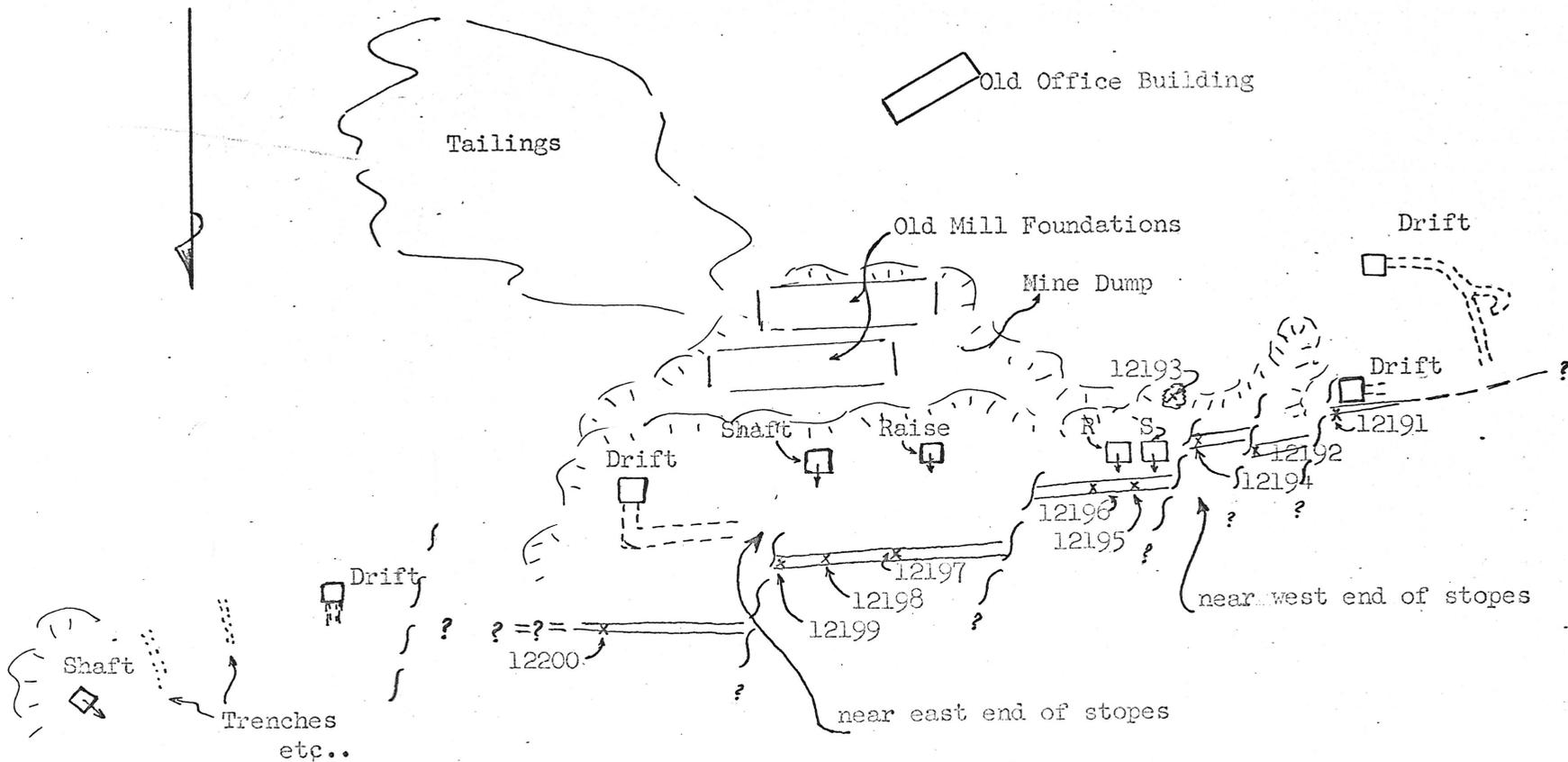


ACCESS TO MINE AREA  
Scale 1 in. : 21 mi.



LOCATION OF NORTH STAR MINE...

Scale 1 : 250,000



SCHEMATIC PLAN OF MINE AREA OF NORTH STAR MINES

showing: sample locations along ore vein.

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: Bob Languth

Company:

Address: In File  
City, State ZIP:  
Phone:

MINE: North Star Tailings

ADMMR Mine File: North Star Mine  
County: Yuma  
AzMILS Number: 98

SUMMARY

Bob Languth reported he still controls the North Star Mine tailings. He has not been involved in any operation there since 1988. Two small investor groups have started to put together operations, but the time delay and uncertainty in getting aquifer protection permits has dampened their enthusiasm to the point where they have given up.

He explained that he now owns his lease contract so that he doesn't have to pay a \$2,000 per month rental on the tailings. He purchased his rental/royalty contract at the estate sale of the deceased owner.

He said he is required to apply for an aquifer protection permit from DEQ even though he is not active. The application costs \$7,150 and then DEQ will refund any excess money they don't use in evaluating his application for a permit not to operate.

Ken A. Phillips, Chief Engineer      Date: December 3, 1993

R/H

VIS6.37

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

1. Information from: P. E. "Doc" Birdick  
Company:  
Address:
2. Phone:
3. Mine: North Star Mine
4. ADMMR Mine File: North Star Mine file
5. County: Yuma                      MILS Number: 98
6. Summary of information received, comments, etc.:

"Doc" Birdick reported a group of people are planning on dewatering the North Star Mine and doing some test work.

Date: June 1992

Engineer: Ken A. Phillips

## VERBAL INFORMATION SUMMARY

Mine: North Star

Engineer: Nyal Niemuth

County: Yuma

Date: 6/24/88

Information from: George Phelps

George Phelps (card- new address, 311 E. 4th St, # 135, Tucson, Arizona 85716, 881-7683, P O Box 13658, Tucson, Arizona 85732) visited and summarized the last few years' activity at the North Star (file) Yuma County. Caprock Energy (card) made a lease agreement with Yuma Gold (card). Yuma dewatered the mine to the 600' level but only got down to 500' level due to shaft caving. Oak Creek Mining of Duncan was hired and did some retimbering of the shaft. As the mine was dewatered the fault discharged clay gouge so the lower levels did not get sampled. The pumps were left at the 600' level allowing the shaft to flood again. Oak Creek was then hired to put in a new surface drift which crosscut the vein. The drift, 290' long, was made to establish a drilling station. Due to drilling difficulties, only 3 of 6 holes were completed. Only 1 of the 3 intercepted the vein. Yuma Gold had spent their budget at this point and needed to make another payment which would not allow them a larger interest in the property so they have left.

Caprock Energy is actually owned by Fargo Resources. Fargo controls the property by lease. Currently Fargo is looking at other submittals and deciding which of the properties to spend money on. If they decide to do work on the North Star, they would dewater it to the 600' level and conduct sampling and mapping to find the ore shoots in the fault/vein system. It is estimated this would take about 4 weeks and cost \$20,000. The company would be interested in taking a partner for this activity.

NORTH STAR

YUMA COUNTY

NJN WR 8/12/88: Bob Langguth (card) reported that delays at the North Star (file) Yuma County due to heat and shortage of water have shut down their summer production efforts to reprocess the tailings. He also reported that they never recovered any gold from their efforts this spring and have no idea why.

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NORTH STAR MINE

YUMA COUNTY

KAP WR 3/11/88: Bob Langguth was in and reported that leaching operations have again been begun on the North Star tailings (file) Kofa District, Yuma County. They will be loading the pad at about 8 tons per hour. So far they have only about 10 tons on the pad for initial testing. The operation is now being directed by Ted and Arie Hildibrand. He hopes to be able to load the heap at a rate of about 50 tons per day which is the maximum they can do with the available water. They are installing a Perkin Elmer AA unit at the property so as to avoid the long delay in waiting for assay results from Phoenix on their process flow.

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RRB WR 3/25/88: Bob Langguth reports that he has the Hilbrands working on a leaching program for the old tailings at the North Star Mine (file) Yuma County. They have 175 tons of ore on the pad which they palletized using 15# of lime and 15# of cement per ton as a binder. They now cannot get the pH below 14. They had assays of .15, .109, .16 etc on the pregnant solution and .05, .03 etc on the effluent from the single 200# carbon column. They are not getting the amount of gold expected, however. A composite sample of the head ore assayed 0.14 oz/ton. I suggested that he get assays and measure weights of everything in and out or in process and do a metallurgical balance and determine the disposition of the gold before trying to find a solution to the problem. My guess is that the high pH is inhibiting the dissolution of the gold in the heap and that that is where the gold is now.

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NJN WR 3/25/88: Bob Langguth (card) reported that they have started their leach operation at the North Star (file) Yuma County and currently have 175 tons of tailings agglomerated and on the pad. Mr. Langguth reported they are having problems stripping their carbon and was seeking guidance on this procedure.

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KAP WR 4/29/88: Dave Rabb, Tucson, requested a copy of a report on the North Star Mine (file) Yuma County which was not in the Tucson Office file. A copy was made for him and for the Tucson file. Mr. Rabb is going to consult for Robert Langguth who is continuing to try to profitably operate the mine.

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NJN WR 6/24/88: A Verbal Information Sheet has been made for North Star Mine.

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NORTH STAR MINE

YUMA COUNTY

NJN WR 12/19/86: P.A. "Doc" Birdick (c) reported that George Phelps (c) is still the geologist at the North Star Mine (file) Yuma County. Jeannie M and Colin Melton are still owners of the North Star which is currently leased to Bob Languth (c). Mr. Languth is still trying to start up a leaching operation on tailings at the North Star. Recently during a dispute with Duane Grey, Mr. Phelps fired a warning shot and is currently out on \$5000 bail.

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KAP WR 5/8/87: Doc Birdick reported that Wade Pierson is still active at the North Star Mine (file) Yuma County.

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KAP WR 6/19/87: Talked with Bob Langguth, (card) about the recent article in Pay Dirt concerning Gold and Minerals Limited acquisition of the North Star Mine (file) tailings and placer in Yuma County. He was not familiar with the article, but after having heard it read to him he said it was both premature and mostly hype to sell stock. He went on to explain he has been negotiating with them, but no deal had been arrived at as yet. The article claims 7 million tons of 0.035 tr oz Au/ton ore and a soon to be operating plant. Langguth felt those numbers must allude to an eluvial placer deposit which has yielded two assays (0.02 and 0.2) in gold.

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KAP WR 6/19/87: Bob Langguth (card) reported that he has signed a criminal complaint against Duane Gray who had at one time been involved with him at the North Star Mine (file) Yuma County. He explained that he knows Gray intentionally damaged equipment at the property's processing plant in retaliation for being dismissed as a consultant or contract metallurgist/operator.

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NJN WR 11/27/87: Bob Langguth (card) reported that Caprock Energy Ltd (card) drove about 300 feet of drift and did underground drilling at the North Star Mine (file) Yuma County. Mr. Langguth reports he plans to leach the tails again this coming year.

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NJN WR 1/15/88: Bob Langguth (card) reported that he has hired Ari and Ted Hillebrand (card) to operate the North Star (file) Yuma County Tailings Leach. Mr. Langguth believes they still have 12 -15,000 tons of the original 38,000 tons to process. The tails run .15 oz/ton Au. They plan to agglomerate the tails and start leaching at the rate of 25 tons per day and hope to build up to 100 tons per day. Their estimated recovery is 70%. Mr. Langguth was sent a copy of the testing section for solution, etc. from the Cyanization of Gold and Silver.

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NORTH STAR MINE

YUMA COUNTY

NJN WR 8/9/85: Bob Langguth (c) visited and reported that he has made Tracon Int. (f) a contractor of his for the North Star (f) tailings project. He hopes to get Aries Hilbrands or Dustin Escapule to act as technical supervisor. If Tracon does not meet their contract requirements they will be off the property. If that happens Chemgold Inc is interested in subleasing the property. Mr. Langguth also explained why we have been hearing so many different tonnage figures. In addition to the tailings there is a placer deposit which carries fine sized gold particles which will be amenable to cyanide heap leaching.

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KAP WR 5/2/86: P.E. "Doc" Birdick, Yuma, reported that the North Star Mine, (file), Kofa District, Yuma County has been completely dewatered and the 4th, 5th, 6th, 7th and 8th levels have been sampled. Further, some drilling has been done from the fourth level for extension of ore at depth. He thought that Caprock Resources still has a vested interest in the property.

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NJN WR 6/27/86: Doc Birdick (c) reported that Caprock Energy Ltd (c) has trailers and equipment at the North Star (f) Yuma County but have not been very active there recently.

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RRB WR 10/17/86: Steve Shurman of Gold Search, 7849 N. Wadsworth, Suite 123, Arvada, CO 80003 and 475-612 Howe St., Vancouver, BC V6C 2B3 - AKA Petro Search - reports that they intend to leach the tails at the North Star, Kofa Dist. Yuma Co with their portable (movable) vat leaching plant. If all goes as planned they should be in operation by the first of the year. Sent him "Pertinent Data" and also sent copy to Jim Blair at the Canadian address.

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NJN WR 10/3/86: John Challinor reported that the placer testing at the North Star (f) Yuma Co by Minco Inc, consisted of 9 back hoe trenches. Only 4 or the 9 had any gold. The best was .037 oz au/ton on -65 mesh material which constituted 10% of the total sample. Mr. Chaliner is planning to do future pilot testing on the North Star Tailings for Bob Langguth (c).

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NORTH STAR MINE

YUMA COUNTY

RRB WR 3/22/85: Dan Goff of Tracon was in to find literature on electro-winning procedures. He reports that Tracon has bought the North Star Tailings Project, Yuma Co.

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njn wr 2/22/85: George B. Phelps (c) visited and reported he is working for Caprock Energy (c) at the North Star Mine (f) Yuma County. He brought in a company brochure on the mine for our file. Caprock has examined the underground workings and plans to be drilling there in March and April. He showed me a copy of Gold Star Mining Company's (a past operator) underground long section assay map. He will see if he can have it copied and send one to us.

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MG WR 5/3/85: Received information from Robert Langguth (c) that Tracon International has declared bankruptcy and will soon have no interest in the North Star tailings (Yuma Co).

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KAP WR 6/28/85: Bob Languth called and asked for suggestions as to someone he might hire to run his cyanide leach operation at the North Star tailings (file) Yuma County. He wants to complete leaching the tailings from the North Star mine and leach some of the placer material in the immediate area. He went on to explain that Tra-con is no longer involved in the operation. Tra-con became involved through Dwayne Grey who Languth had retained to run the leach plant and who had been given a percentage interest in the operation.

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NJN WR 7/26/85: Jack Brantl of Watersaver Company Inc. reported that Tracon Int. (f) will be leaching the North Star Mine (f) tailings in about one month. Tracon Int. has filed for Chapter 11 in bankruptcy court and will be reorganized in about one month. They told Mr. Brantl they had made management errors in the past.

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NORTH STAR MINE

YUMA COUNTY

KAP WR 6/7/84: Bob Languth reported he has contracted Dawyne Gray to run the cyaniding operation at the North Star Mine (file) tailings, Yuma County. He is also going to retain Bob Crook as a metallurgical consultant and to handle the operations metallurgical accounting.

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KAP WR 6/15/84: P.E. "Doc" Birdick reported that Anaconda Minerals had made attempts to pump out the underground workings at the North Star Mine (file) Yuma County.

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NJN WR 7/27/84: Bob Languth (c) reported that Nevada Mining and Milling produced 24 oz. of gold from the North Star Mine (f) tailings, Yuma County and then shutdown. Mr. Languth is starting a new operation on the tailings. He has employed Bob Crook as metallurist and Dwayne Grey as a contractor to move tailings.

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KAP WR 8/17/84: Bob Languth reported that the operation at the North Star tailings, Yuma County has thus far recovered 41 troy ounces of dore assaying 644 fine. They have 550 tons of tailings on the pad. The gold and silver recovered is from the first carbon desorption cycle.

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KAP WR 2/8/85: Hal Perry called regarding operations at the North Star Mine (file) Yuma County. He explained he believes that Tracon International has purchased or bought into the tailings recovery operation on the North Star Tailings. He went on to explain that he understands that Tom Ledding and Eldon Bollinger now own Tracon and that Interplex International (formerly Last Frontier Oil) has acquired a significant holding in Tracon by paying off many of Tracons's bills. For specific information on the North Star tailings I suggested Mr. Perry contact Bob Languth.

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NORTH STAR MINE

YUMA COUNTY

RRB WR 12/9/83: Ron Cameron of Nevada Mining and Research, Inc. (NMR) PO Box 6001, Yuma, AZ 85364, the operator of the tailing leaching operation at the North Star in Yuma Co., was into look at the North Star file. He also was interested in the placers on the Hassayampa.

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RRB WR 1/27/84: Bob Languth reports that he has terminated the lease of Nevada Mining and Research at the North Star Mine, Yuma County, for non-compliance. He says that they have not produced anything since the initial good show.

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KAP WR 2/17/84: Bob Languth reported the carbon in pulp operation at the North Star Mine's tailings has been idle since November, 1983. He explained that Joe Pace, the operator is trying to obtain additional operating funds and money to buy out Languth's interest. Joe Pace is reported to be the principal operating individual of Nevada Mining and Research Company.

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RRB WR 3/2/84: Bob Languth reports that Nevada Mining and Resources stopped operations at the North Star, Yuma County, on 9/15/83, the contract was cancelled 11/10/83, and they were asked to leave by 2/11/84. The bank has foreclosed on all of their equipment.

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NJN WR 2/24/84: Dr. Birdick (c) reported that Anaconda has an 18 month lease on the North Star Mine, Yuma County. The mine is being dewatered. Anaconda had built (or repaired) a ladder down the main shaft but that one night when no one was underground the shaft caved in. They are now using Collar #6 which is one of the old combination air and escape shafts.

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KAP WR 5/25/84: Robert Crook reported he will be leaving North American Assay Company. He plans to work as a consultant and may open his own assay laboratory. He is also going to supervise metallurgical operations at the North Star Tailings at the North Star (file) cyanide operation in Yuma County.

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NORTH STAR MINE

YUMA COUNTY

NJN WR 7/8/83: Anaconda Minerals is looking at the North Star Mine, Yuma County.

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KAP WR 8/12/83: Bob Langguth reported the Nevada Mining and Research Inc. operation at the North Star Mine, Kofa District, Yuma County is continuing. They have made their first delivery of loaded carbon to Sun Dust Industries for stripping. Mr. Langguth went on to explain that he now owns 2/3 interest in the operation since he bought out Jean Moor while Nevada Mining still owns one third. He would like to sell his two thirds interest.

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KAP WR 8/19/83: Bob Langguth explained that the operation at the North Star Mine tailings reprocessing mill handles 8 tons per hour of tailings. All water is hauled in from just north of Yuma except that which can be collected from local rainfall.

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NJN WR 8/19/83: Bob Crook reported that Santa Fe Minerals currently has two active projects in Arizona. One is called Granite Mountain near Prescott and one is in the Kingman area. He also reported that the Tip Top, Yavapai County, was a disappointment to Santa Fe and that project is inactive or dead.

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RRB WR 9/2/83; Bob Langguth of the North Star Mine in Yuma County, reports that they are running at a rate of 8 tons/hour and that they get 88% of the gold into solution in 45 minutes.

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*R.R.B./WR 11/4/83*

Bob Langguth called to see if we knew of a custom mill near 40th Street and Washington. He reported that Anaconda has leased the three patented claims at the North Star and that they intend to dewater and reopen the underground workings for evaluation. He also said that they offered him the water for his placer operation at the North Star.

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KAP WR 11/4/83: P.E. Birdick of Yuma reported that Anaconda Minerals Co has an exploration agreement with owners of the North Star Mine. John Westover (controlling owner of the North Star) has made the agreement such that Anaconda will commit a specified minimum for exploration on the property in lieu of minimum rental payments.

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KAP WR 7/31/81: Bob Languth reported he is planning to set up a heap leaching operation at the North Star Mine, Kofa District, Yuma County. He plans to construct a single pad to contain the entire 60,000 tons of dump material in a single lift. Pad construction is planned for September 1981.

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MG WR 10/2/81: Doctor Birdick of Yuma reports that Mr. Howard Hayes trucked wastedump rock to the Hayden smelter, owned by ASARCO, in 1981. This smelter flux material was reportedly recovered from the North Star patented property.

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KAP WR 11/20/81: Robert D. Briggs, B. S. Geological Engineer, Silver State Mining Inc., Unit 12B Village Green, 1675 North 200 West, Provo, Utah 84601, phone (801) 377-4260 reported he is investigating the potential of agglomerating the tailings at the North Star Mine, Kofa District, Yuma County for cyanide leaching in flooded ponds. The firm has 26 employees including mining engineers and has some producing gold-silver leach operations.

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KAP WR 12/25/81: Bob Languth reported he has leased his interest in the North Star Mine, Kofa District, Yuma County, to Larry May and K-Tron. He explained that K-Tron did their own sampling and plan to operate the property.

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RRB WR 6/25/82: Alex Sinclair of the Mine Inspector's office called to learn something about "Vapor Phase Agua Regia Leaching" which he said was being planned for the North Star Mine in Yuma County. He later called back to report that he had talked to Dave Rabb and that Dave agreed that it would be impossible to do on a production scale.

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NJN WR 4/1/83: Bob Langguth, called and was seeking information on carbon stripping. Apparently he is working with a small carbon-in-pulp plant at the North Star Mine, Yuma County. The Plant has 12 - 8,000 gallon tanks of which the last 4 in the circuit contain carbon. The plans are to rework 60,000 tons of tailings which are at -200 mesh.

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KAP WR 4/8/83: Bob Languth reported work is continuing on the North Star (Kofa District, Yuma County) tailings. Nevada Mining and Research, 2299 Avenue B, Yuma, Arizona is completing a vat cyanide leaching plant to treat the old tailings. Jim Greenberg is reported to be the president of the firm and is working at the property.

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Telephone Call:

from Bob Langeth on 2/5/80 to Mr. John H. Jett, Director

*Yuma*

He has purchased the tailings of the North Star from Gene Moore. Investigated with Jack Gilbert to ship as flux but alumina content exceeds 17%. Lyle Lechthey of Tucson is doing some work on flotation. He took 150 samples (20 ft. intervals across the dumps.) Composite assay was .16 oz of au. This closely checks a previously made composite of .15. Is investigating the possibility of shipping to Standard Slag near Pioche. They will cyanide for \$11.00 per ton, a contract shipper quoted \$24.00 per ton haulage.

Was asking about a Contract Mining Services reportedly setting up a custom mill in Yuma. Owners are Harry Knight, David Knight and John Reed.

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CJH WR 2/14/80: Mr and Mrs. John Westover, 1800 First Federal Bldg, 3003 N. Central, Phoenix 85012, phone 263-3855. Mr. Westover, along with Wm. P. Copple (a Federal Judge) and Mary Mansfield (Yuma County) own the North Star Mine, Yuma County. They want the mine file (with maps) copied. I explained the bonded messenger procedure. They will comply.

KAP WR 11/21/80: Bob Langguth's wife reported that he is planning a leaching operation at the North Star Mine, Kofa District, Yuma County.

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KAP WR 12/12/80: Mr. William L. McAllister, P.O. Box 297, Congress, Arizona 85332, reported that he is planning to leach tailings at the North Star Mine, Kofa District, Yuma County. The operation will be an agitation leach to process 35 to 50 tons per day (he reported). They will circulate approximately 25 tons of solution and use a small carbon adsorption electrowinning operation. The tailings are leased from Bob Langguth. Mr. McAllister said that the values of the tailings were around 0.81 tr.oz/ton gold and 1.0 tr.oz/ton silver. The 0.81 tr.oz/ton gold in tailings seems rather high.

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KAP WR 12/19/80: P. E. Birdick reported that work is going on at the North Star Mine, Kofa District, Yuma County. The work consists of setting up tanks, plumbing, and three trailers. Several employees appeared to be involved in the operation.

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NORTH STAR

Do Not Reproduce

YUMA

Called P.A. Birdick, Yuma, regarding claim situation in the Kofa area. He reported that John H. Westover of 3003 N. Central, Suite 1800, Phoenix, phone 264-9404, was one of the owners of the North Star mine. GWI WR 3/5/75

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NORTHSTAR MINE

Do Not Reproduce

YUMA COUNTY  
KOFA DIST.

T 15 - R 14 W MS - 2630

Conference with Nick Yushkevich, (P.O. Box, 175, Roll, Arizona) at Yuma. 2/8/67

Yushkevich has been a prospector in the Kofa Tank Mountain area for several years and seems to be very familiar with the area. He reported that the Northstar Mine had some low-grade, or mill grade "ore" reserves, but that considerable work would be needed in order to rehabilitate it. He also said that he had found a considerable area of promising ground which lies northwest of the mine and that he felt it was a continuation of the Northstar mineralization. Other intermittent and scattered areas to the E show some alteration, but it is not now certain that these are connected with the Northstar. Some of the remaining ore in the Northstar contains some pyrite and possibly other sulphides.

LAS MEMO 2/8/67