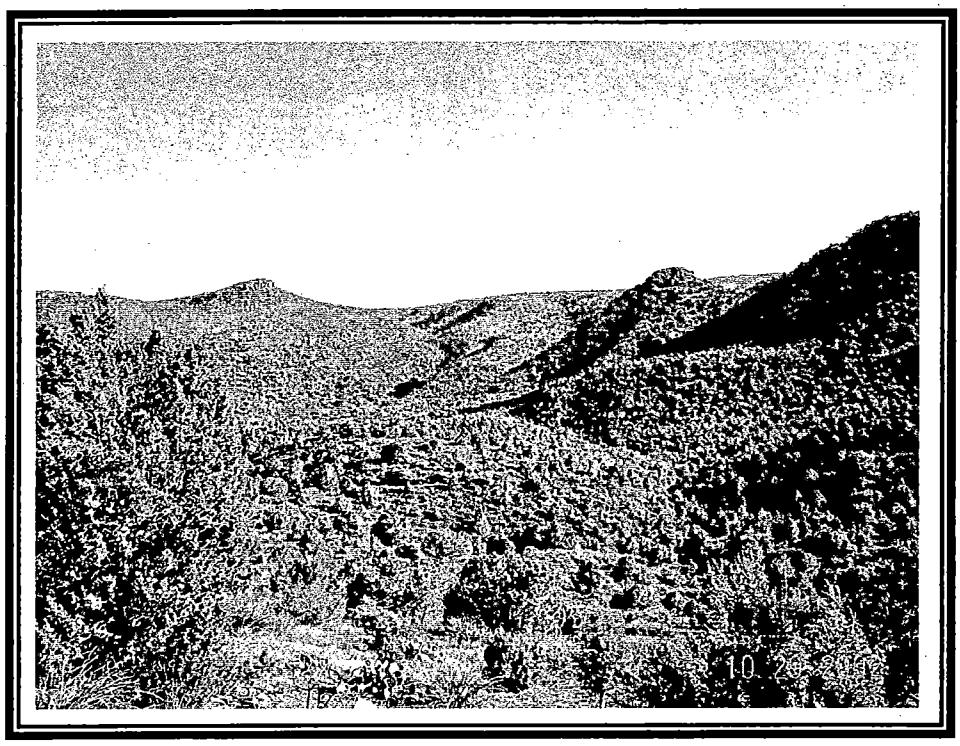
LIMITED SUBSURFACE INVESTIGATIVE REPORT

Portions of 125 Acre Parcel of First Deed of Trust
(J-1, J-52, J-55, J-56, J-57, J-58) AKA Mineral Survey #4740 A&B and 4794
Near Chrysotile, Arizona



Prepared for:

Mr. Mark Madkour
Markour Funding and Investments, Inc.
14350 North Frank Lloyd Wright Blvd.
Suite 14
Scottsdale, Arizona 85260

and

Richard Jutzi, Trustee
Ash Creek Land Trust
c/o Cohen, Rife and Jutzi
4534 North 16th Street, Suite 103
Phoenix, Arizona 85016-5344

Prepared by:

Environmental Professional Services, Inc.
4603 East Downing Street
Mesa, Arizona 85205
(480) 924-8078

November 1, 2002

ADEQ Certification Number: D00044 ■ Arizona Registered Geologist Number: 26980

LIMITED SUBSURFACE INVESTIGATIVE REPORT

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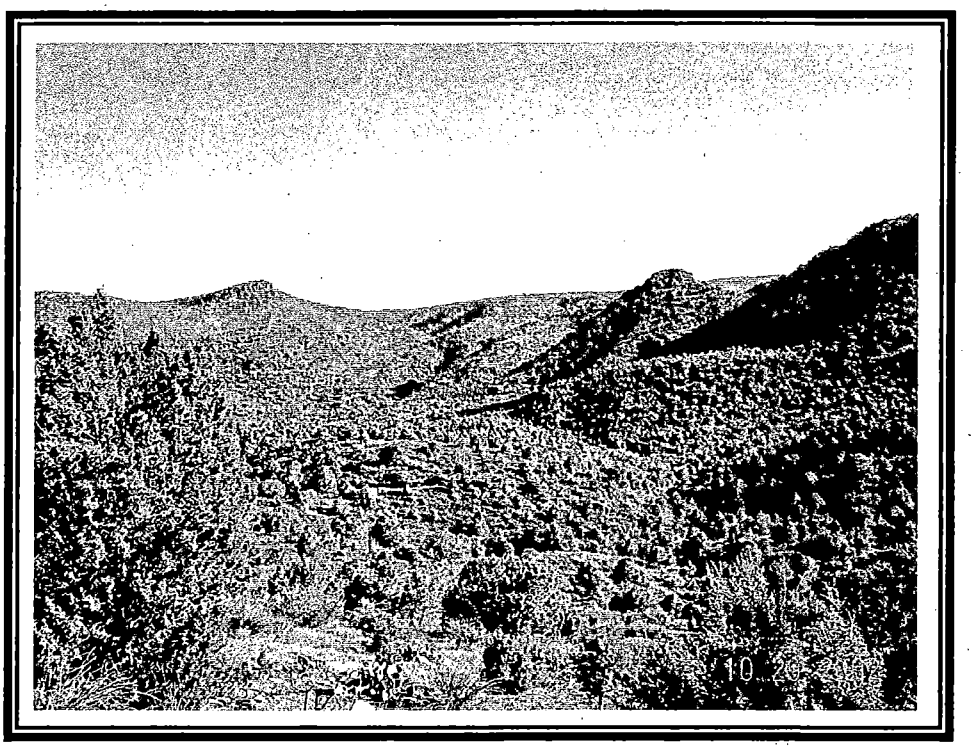

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Environmental Professional Services, Inc.
4603 East Downing Street
Mesa, AZ 85205
(480) 924-8078
(480) 924-7807 fax
AZ ROC 127204

Invoice

DATE	INVOICE #
11/1/2002	22179

BILL TO
Mark Madkour Markour Funding and Investment, Inc. and Richard Jutzi Ash Creek Land Trust

EPS JOB NO.	TERMS	DUE DATE
22172	Due on receipt	11/1/2002

DESCRIPTION	QTY	RATE	AMOUNT
Limited Subsurface Investigative Report Property Located at: Portions of 125 Acre Parcel (J-1, J-52, J-55, J-56, J-57, J-58) Chrysotile, Arizona	1	2,910.00	2,910.00

Thank you for your business.

Total $2,910.00

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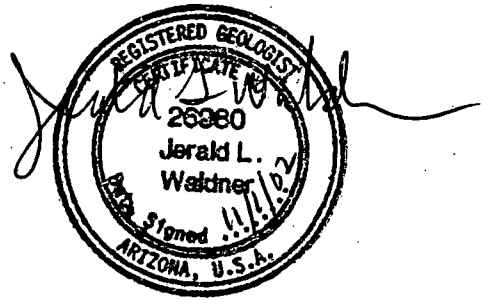

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LIMITED SUBSURFACE SOIL INVESTIGATION REPORT

Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58)
AKA Mineral survey #4740 A&B and #4794
Near Chrysotile, Arizona

1.0 INTRODUCTION

Environmental Professional Services, Inc. (EPS) have completed this Limited Subsurface Soil Investigation Report at Portions of 125 Acre Parcel of the First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58), AKA Mineral survey #4740 A&B and 4794, near Chrysotile, Arizona. EPS has completed a review of Environmental & Water Issues Report prepared for ENR Financial Services, Inc. which identified the Chrysotile area as a previous asbestos mining district.

The Scope of Work is included in Appendix A of this report. Mr. Mark Madkour, Markour Funding and Investments, Inc. also requested several soil samples and water samples from the creek and near the main residence at Chrysotile. Mr. John Schnetzer, property owner provided access and an escort to the subject property. Photographs of the investigation are attached.

2.0 SITE LOCATION AND DESCRIPTION

The subject site investigated is Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58), AKA Mineral survey #4740 A&B and #4794, near Chrysotile, Arizona (Appendix A). The vicinity map and sample location map are provided on Figures 1 and 2.

The topographic map elevation review of portions of J-52, J-55, J-56, J-57, and J-58 indicated elevations ranging from 5200 to 5700 feet mean seal level an portions of J-1 elevations ranging from 5100 to 5300 feet mean sea level. It appears from the site reconnaissance, that J-52, J-55, J-56, J-57, and J-58 are located higher in elevation than the asbestos mineralization formation. The lower elevations of portions of J-1 appear near the limestone formations.

The chrysotile asbestos is a product of contact metamorphism of magnesian limestones. The Chrysotile deposits originated through metamorphic action of diabase intrusives upon Precambrian Mescal Limestone.

The Chrysotile town-site is lower in elevation than the Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58), AKA Mineral survey #4740 A&B and #4794. The town-site of Chrysotile is located along the Ash Creek drainage. The area of Chrysotile is inactive asbestos mining tunnels, mine tailings, and mining related stone buildings.

3.0 LIMITED INVESTIGATION PROCEDURES AND RESULTS

The limited investigation and site reconnaissance was completed by EPS personnel on October 29, 2002. The scope of work included collecting twelve (12) surface soil samples at random locations of convenience for laboratory analysis to assess for the presence of asbestos. The sample analysis provides an assessment of whether chrysotile asbestos is detected. This investigation is not to be considered as conclusive data for a risk assessment of the asbestos contamination.

Eight soil samples (AS-1 though AS-8) were collected from Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58), AKA Mineral survey #4740 A&B and #4794, near Chrysotile, Arizona. Soil samples were collected from the surface to a depth of about 1-inch below ground surface. Soil samples were collected and placed into laboratory provided plastic bags.

Four soil samples were collected at random locations of convenience from Ash Creek below the main residence (AS-9) and pond (AS-10) and the road near the bunkhouse (AS-11) and the jailhouse building (AS-12).

Additionally, EPS collected two grab water samples. One water sample (Ash Creek Water) was collected near the upper portion of Ash Creek entering the private property. One water sample

(House Water) was collected from the water used to supply main residence and pond. The water was collected for analysis of asbestos. This water analysis is not to be considered conclusive data for a new source drinking water assessment. The water samples were collected by filling a one liter bottle.

The soil and water samples were labeled and Chain-of-custody procedures were maintained. The samples collected were delivered to Fiberquant Analytical Services, Phoenix, an Arizona certified laboratory for analysis and is accredited by NVLAP for the analysis of bulk samples for asbestos using PLM. The Chain-Of-Custody Records and Laboratory Analytical Test Results are provided in Appendix B.

The soil samples were analyzed in accordance with U.S. Environmental Protection Agency (EPA) Method 600/R-93/116 PLM analysis for asbestos in bulk sample. The soil samples analyzed did not detect asbestos, except for samples AS-9 and AS-12 which indicated <=1% chrysotile asbestos and sample AS-11 which indicated >1-2% chrysotile asbestos. The laboratory test results are summarized in the attached Table 1.

The water samples were analyzed in accordance with EPA Method 100.1 TEM analysis for asbestos in water. The water samples analyzed did not indicate any asbestos above the laboratory detection limits of 200,000 fibers per liter. The EPA limit is 7,000,000 fibers per liter.

4.0 SUMMARY

Environmental Professional Services, Inc. (EPS) have provided you with this Limited Subsurface Soil Investigation Report of the Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58), AKA Mineral survey #4740 A&B and 4794, near Chrysotile, Arizona

Twelve (12) surface soil samples were collected at random locations of convenience for laboratory analysis to assess for the presence of chrysotile asbestos. This investigation is not to be considered as conclusive data for a risk assessment of the asbestos contamination.

Additionally, EPS collected two grab water samples from Ash Creek and water near the main residence at Chrysotile, Arizona. This water analysis is not to be considered conclusive data for a new source drinking water assessment.

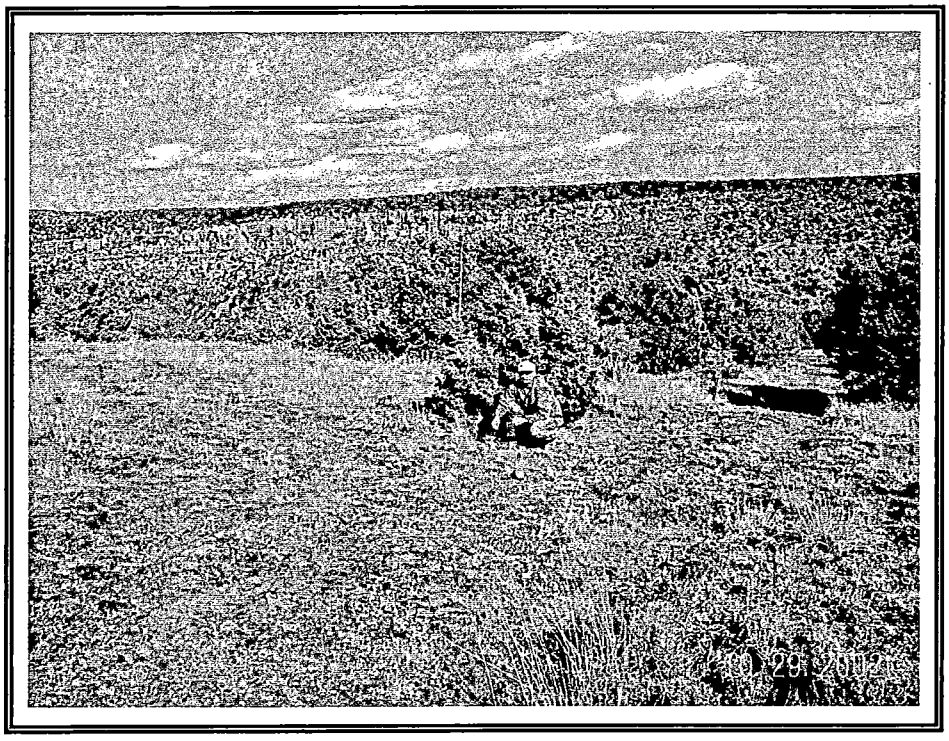
The samples collected were delivered to Fiberquant Analytical Services, Phoenix, an Arizona certified laboratory for analysis. The soil samples analyzed did not detect asbestos, except for samples AS-9 and AS-12 which indicated <=1% chrysotile asbestos and sample AS-11 >1-2% chrysotile asbestos.

The water samples were analyzed by Fiberquant Analytical Services, in accordance with EPA Method 100.1 TEM analysis for asbestos in water. The water samples analyzed did not indicate any asbestos above the laboratory detection limits.

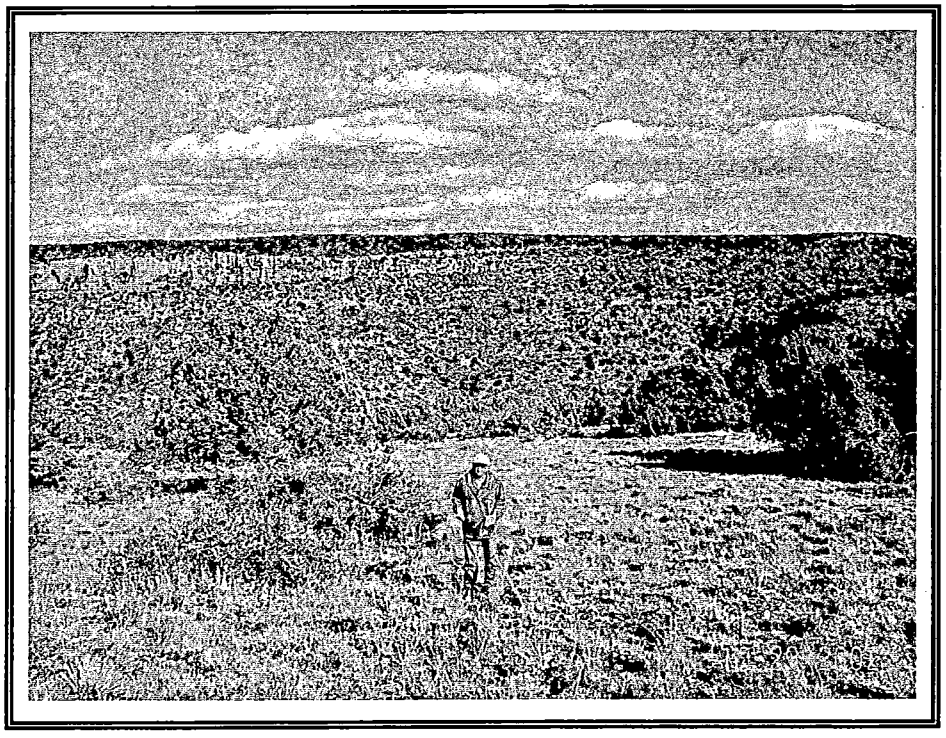
PHOTOGRAPHIC LOG

Photograph 1: Looking at area of J-1 soil sample location AS-1.

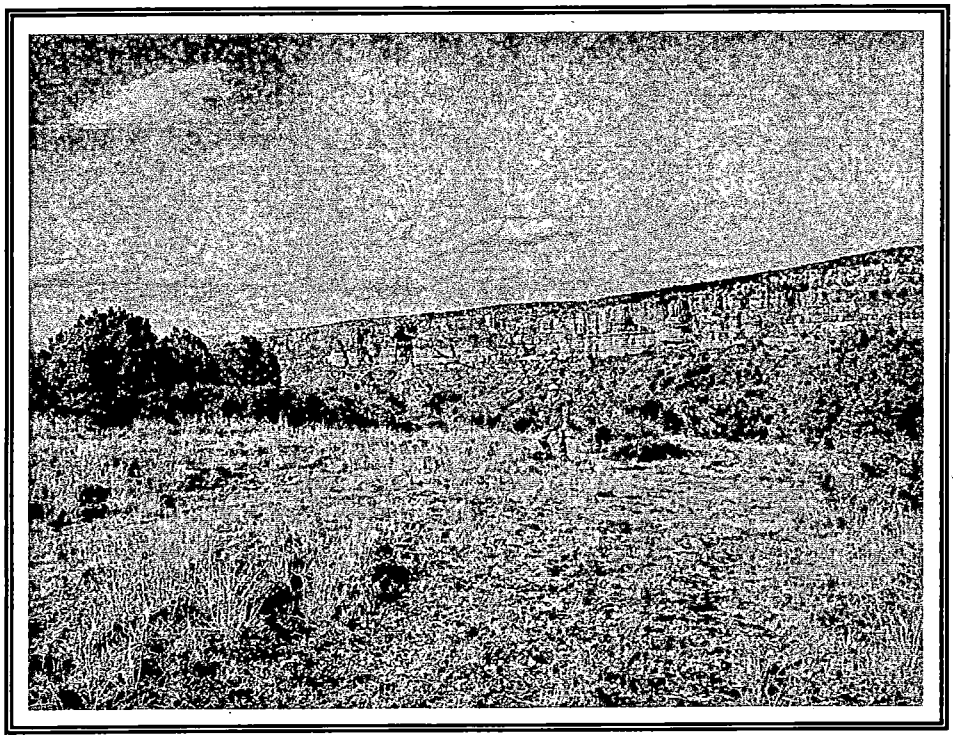
Photograph 2: Looking at area of J-52 soil sample location AS-2.



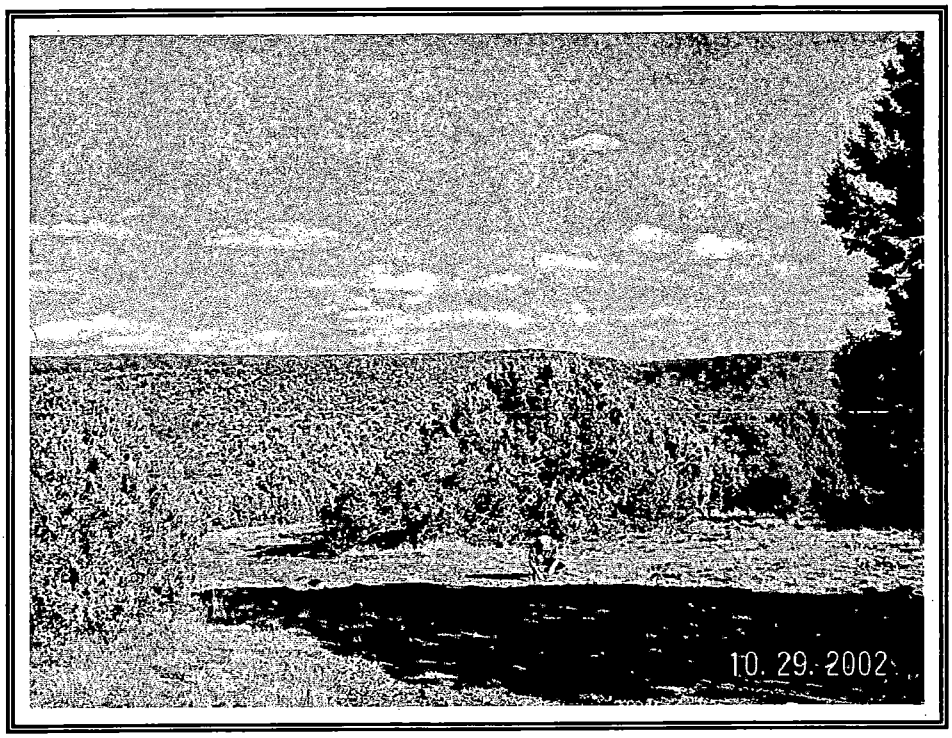
Photograph 3:Looking at area of J-52 soil sample location AS-3.



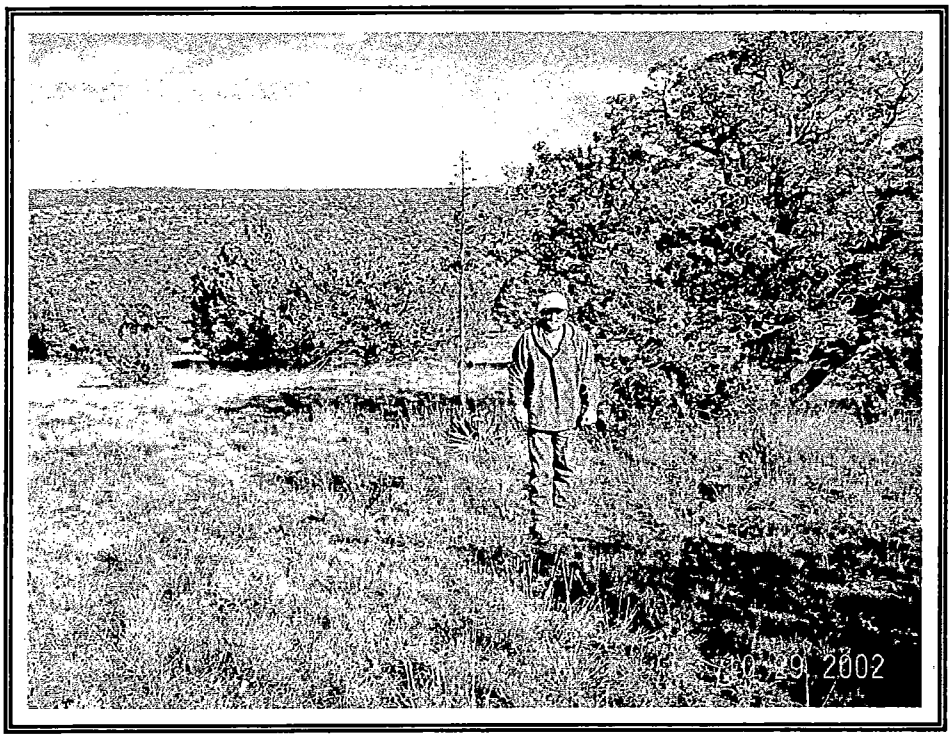
Photograph 4: Looking at area of J-57 soil sample location AS-4.



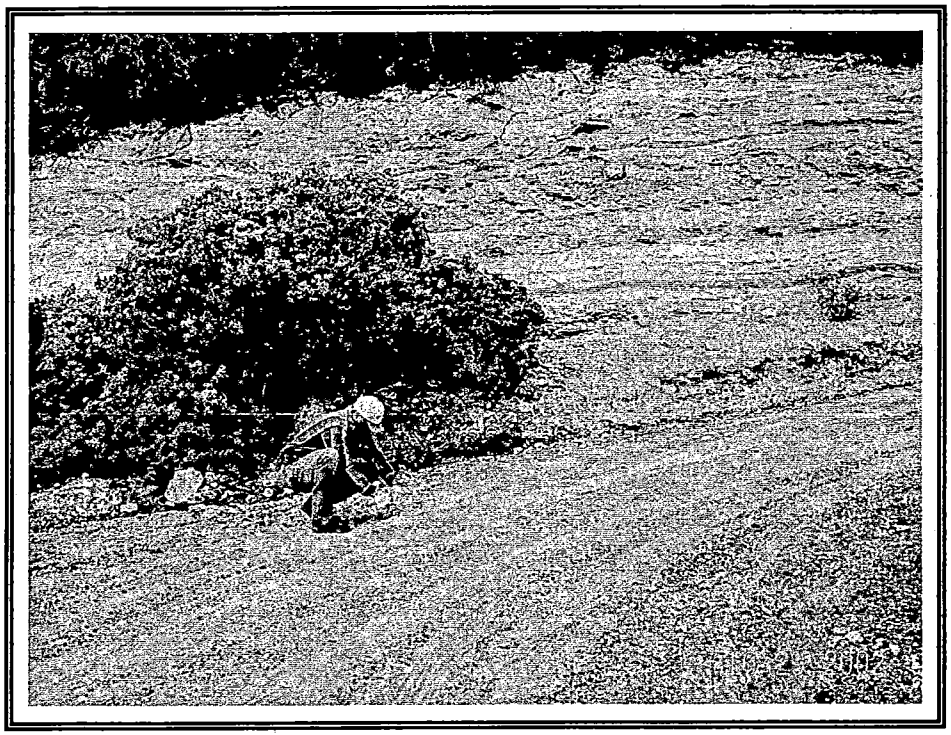
Photograph 5: Looking at area of J-58 soil sample location AS-5.



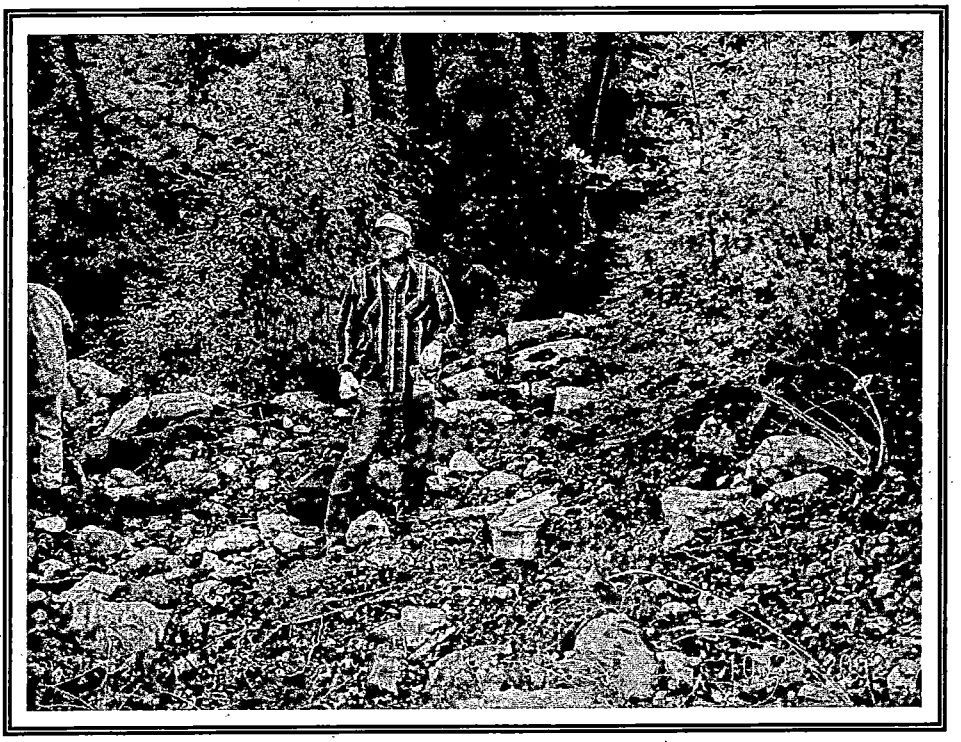
Photograph 6: Looking at area of J-56 soil sample location AS-6.



Photograph 7: Looking at area of J-55 soil sample location AS-7.



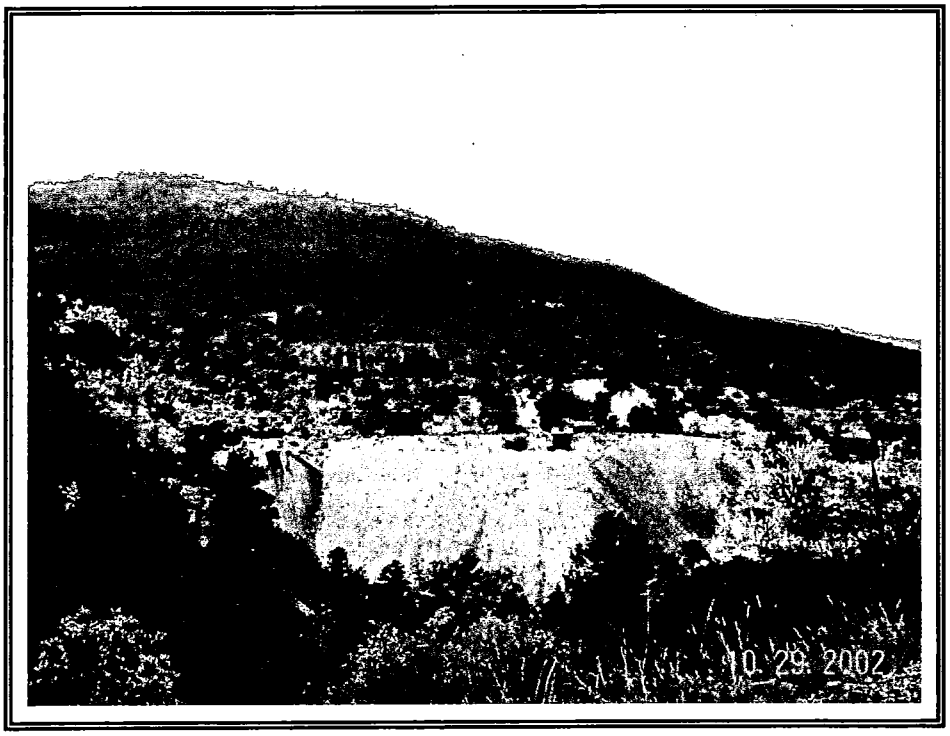
Photograph 8: Looking at area of J-1 soil sample location AS-8.



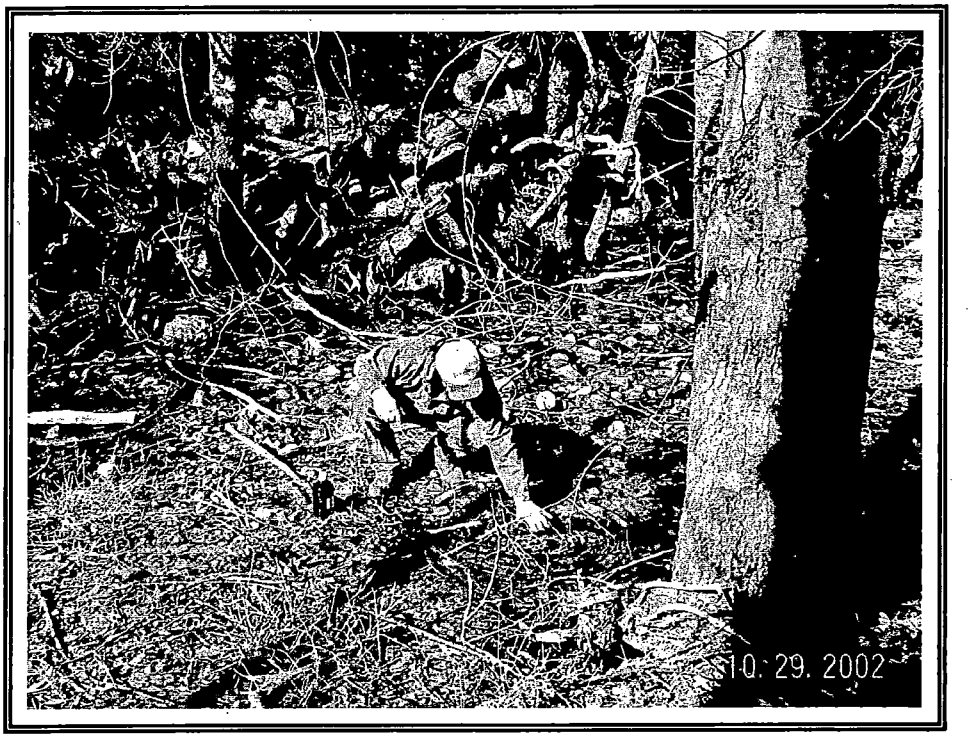
Photograph 9: Looking at area of Ash Creek below the main residence soil sample location AS-9.

Photograph 10: Looking at area of Ash Creek below the pond soil sample location AS-10.

Photograph 11: Looking at area of the bunkhouse soil sample location AS-11.



Photograph 12: Looking at an inactive Chrysotile mine and tailings.



Photograph 13: Looking at area of Ash Creek Water sample location.

Photograph 14: Looking at water piping for the main residence and pond House Water sample location.

TABLES

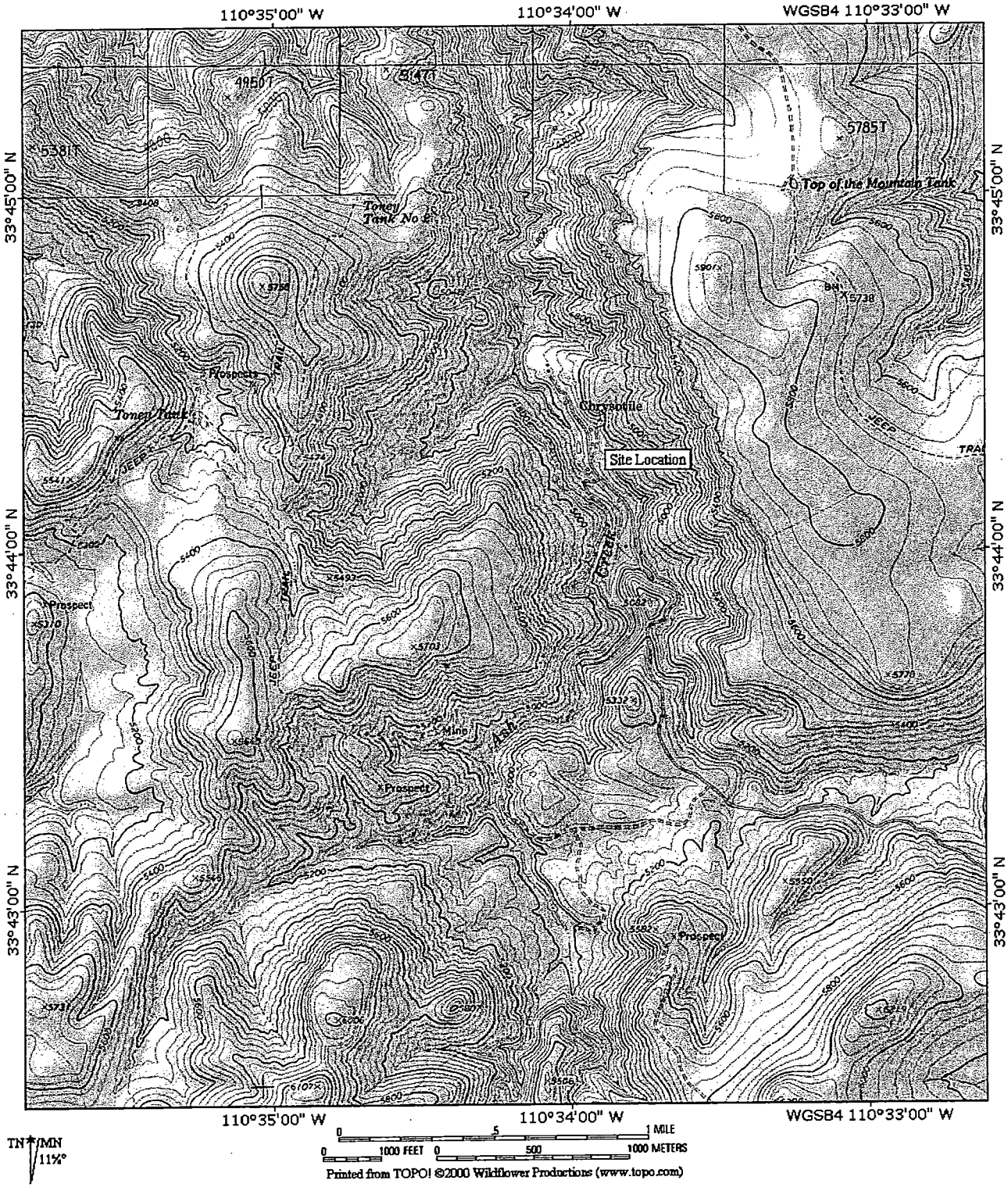
TABLE 1 ANALYTICAL TEST RESULTS

LIMITED SUBSURFACE SOIL INVESTIGATION REPORT

Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-57, J-58)
AKA Mineral survey #4740 A&B.
Near Chrysotile, Arizona

Sample No.	Date Collected	Location	Color	Asbestos Present
AS-1	10/29/02	J-1	brown soil	No asbestos detected
AS-2	10/29/02	J-52	brown soil	No asbestos detected
AS-3	10/29/02	J-52	brown soil	No asbestos detected
AS-4	10/29/02	J-57	brown soil	No asbestos detected
AS-5	10/29/02	J-58	brown soil	No asbestos detected
AS-6	10/29/02	J-561	brown soil	No asbestos detected
AS-7	10/29/02	J-55	brown soil	No asbestos detected
AS-8	10/29/02	J-1, along road	tan soil	No asbestos detected
AS-9	10/29/02	Ash Creek below House	brown soil	<=1% chrysotile asbestos
AS-10	10/29/02	Ash Creek below Pond	brown soil	No asbestos detected
AS-11	10/29/02	Bunkhouse Road	tan soil	>1-2% chrysotile asbestos
AS-12	10/29/02	Jailhouse Road	tan soil	<=1% chrysotile asbestos
Ash Creek Water	10/29/02	Ash Creek	Clear Water	No asbestos detected
House Water	10/29/02	Main Residence	Clear Water	No asbestos detected

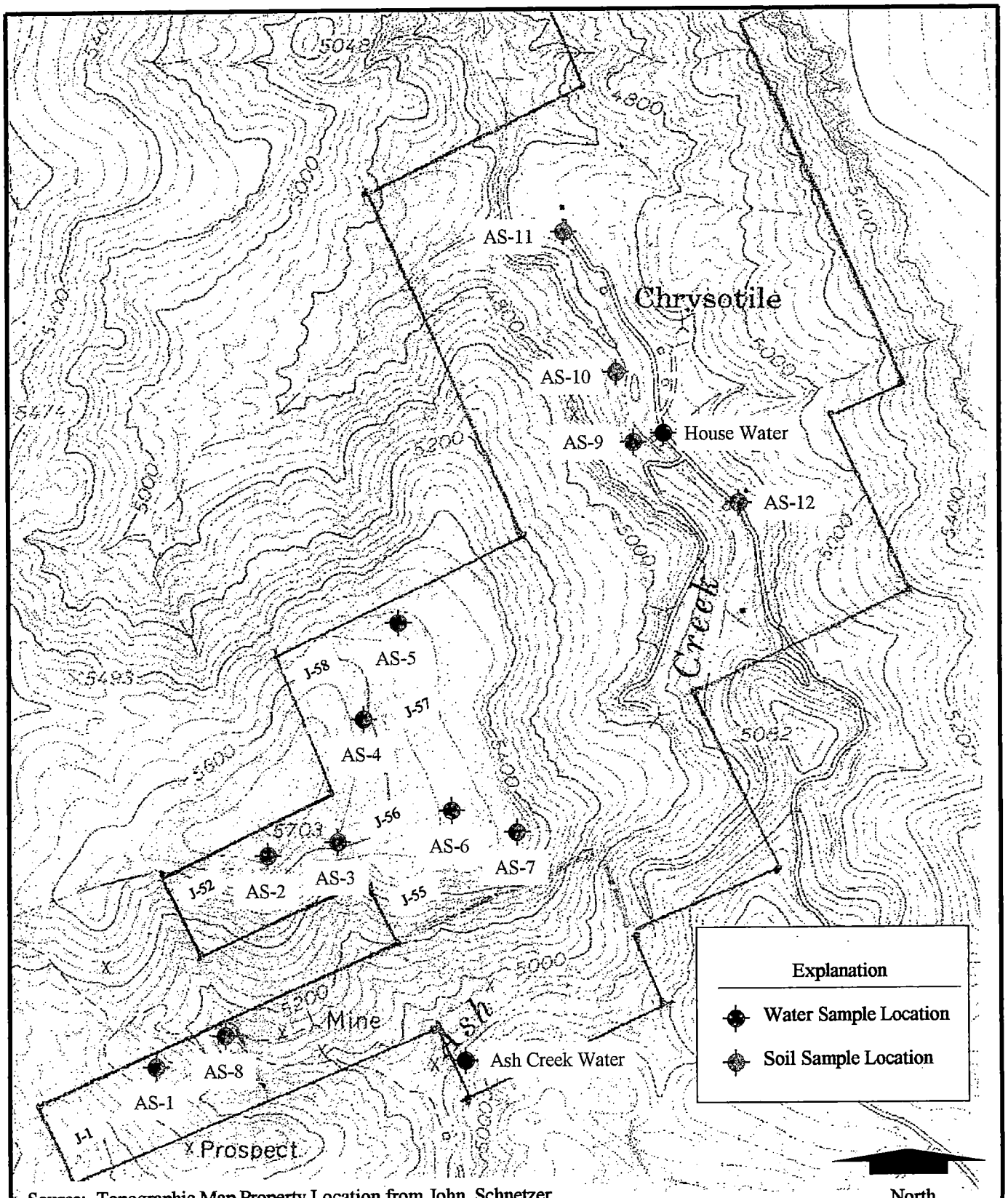
FIGURES



N

Source: USGS, Chysotile, Arizona, Parts of Sections 3 & 4, T4N R17E, Parts of Sections 27, 28, 33 & 34, T 4.5N R17E

Environmental Professional Services, Inc. ***4603 East Downing Street*** ***Mesa, Arizona 85205*** ***(480) 924-8078***	Limited Subsurface Investigative Report	Vicinity Map Portions of 125 Acre Parcel Chrysotile, Arizona	Figure 1
	Reviewed by: J. Waldner, R.G.		
	Project No: 22172 Date: 11/2002		



Source: Topographic Map Property Location from John Schnetzer.

Environmental Professional Services, Inc. ***4603 East Downing Street*** ***Mesa, Arizona 85205*** ***(480) 924-8078***	Limited Subsurface Investigative Report	Sample Locations Portions of 125 Acre Parcel (J-1, J-52, J-55, J-56, J-58) Near Chrysotile, Arizona	Figure 2
	Reviewed by: J. Waldner, R.G.		
	Project No.: 22172 | Date: 11/2002		

APPENDIX A

APPENDIX A

SCOPE OF WORK and

USER PROVIDED INFORMATION

Environmental Professional Services, Inc.

4603 E. DOWNING STREET
MESA, ARIZONA 85205
(480) 924-8078
FAX (480) 924-7807

AZ ROC #127204

October 28, 2002

Mr. Mark Madkour
Markour Funding and Investments, Inc.
14350 North Frank Lloyd Wright Blvd, Suite 14
Scottsdale, Arizona 85260

SUBJECT: **CONTRACT FOR LIMITED SUBSURFACE SOIL INVESTIGATION**
Portions of 125 Acre Parcel of First Deed of Trust (J-1, J-52, J-55, J-56, J-58)
AKA Mineral survey #4740 A&B.
Part of Chrysotile, Arizona

Dear Mr. Madkour:

Environmental Professional Services, Inc. (EPS) have provided you with this Contract for Limited Subsurface Soil Investigation at portions of the above-referenced property. The Review of Environmental & Water Issues Report prepared for ENR Financial Services, Inc. identified the subject area as an asbestos mining area.

The scope of work of this limited investigation is to randomly collect twelve (12) surface soil samples for laboratory analysis to assess for the presence of asbestos. The sample analysis will provide general information and will not be considered as conclusive data for a risk assessment of the asbestos contamination. Additionally, EPS will collect up to two grab water samples from the property for analysis of asbestos. This information will not be considered conclusive data for new source drinking water assessment.

Twelve random soil samples will be collected from the surface to a depth of 2-inches below ground surface. Soil samples will be collected and placed into laboratory provided plastic bags. The water samples will be collected by filling a one liter bottle. The soil and water samples will be labeled and sealed in an re-sealable plastic bag. Chain-of-custody procedures and proper sample documentation will be maintained. The samples collected will be delivered to an Arizona certified laboratory for analysis.

Two copies of the Limited Subsurface Soil Sampling and Laboratory Analysis Report will be prepared and submitted to you. The report will document the field activities, laboratory chemical analytical test results, and the following maps: Site Location Map, Site Plan Map with the Sample Locations.

EPS will perform the scope of services as discussed above and complete the work within five business days. The total cost for these services is $2,910.00. EPS requests that $2,910.00 be paid upon returning the contract to proceed.

Please complete Environmental Professional Service, Inc.'s Consulting Agreement and Authorization to Proceed which is enclosed with your signature, (Attachment 1) and return one copy to our office. If you have any questions regarding this contract, please call (480) 924-8078 or (602) 571-4346.

ENVIRONMENTAL PROFESSIONAL SERVICES, INC.

Jerald L. Waldner, R.G.
Registered Geologist/Vice President

Attachments (1)

Cost Estimate:

Labor
Review existing data, research = 4 hours
Travel 2 people x 5 hours = 10 hours
Sample Time 2 people x 4 hours = 8 hours
Lab delivery, coord. = 2 hours
Report = 6 hours

(Labor 30 hours @ 60/hr = $1,800.00)

Equipment and Mileage = 200

Laboratory
Asbestos PLM 12 soil samples x 30/sample = 360
Asbestos Water TEM 2 samples x 275 = 550

Estimated total $2,910.00

ATTACHMENT 1

PLEASE COMPLETE AND RETURN TO EPS, ONE COPY OF THIS CONSULTING AGREEMENT AND AUTHORIZATION TO PROCEED

Contract # 22172

This Agreement between Environmental Professional Services, Inc., an Arizona corporation, ("EPS" or "Consultant") with offices at 4603 East Downing Street, Mesa, Arizona 85205 and Mr. Mark Madkour, Markour Funding and Investments, Inc. ("CLIENT"), with offices at 14350 North Frank Lloyd Wright Blvd., Suite 14, Scottsdale, Arizona 85260 .

1. EPS agrees to perform the services described in its Contract dated: October 28, 2002 , including attachments and amendments ("SERVICES").

2. CLIENT authorizes EPS to perform these SERVICES for the following project:
Limited Subsurface Soil Investigation - Environmental Services per attached cover letter.

3. EPS is willing to perform the SERVICES in exchange for the following fee:
The total cost for these services is $2,910.00 to be paid upon returning the contract.

4. Special Provisions (check): X NONE _ ATTACHMENT

5. **CLIENT RECOGNIZES THAT THE PRESENCE OF HAZARDOUS MATERIALS OR POLLUTION ON OR BENEATH THE SURFACE OF A SITE MAY CREATE RISKS AND LIABILITIES. CONSULTANT HAS NEITHER CREATED NOR CONTRIBUTED TO THIS POLLUTION. CONSEQUENTLY, CLIENT RECOGNIZES THIS AGREEMENT WILL ACCORDINGLY LIMIT CONSULTANT'S LIABILITY.**

CLIENT confirms reading this document in full (including the terms following this initial page). CLIENT and CONSULTANT understand the terms of this Agreement. CLIENT and CONSULTANT freely enter into this AGREEMENT. The AGREEMENT becomes effective on the date CLIENT signs below.

CLIENT	**ENVIRONMENTAL PROFESSIONAL SERVICES, INC.**
Signature:	Signature: Jerald L Waldner
Name: MARK MADKOUR	Name: Jerald L. Waldner, R.G.
Title: PRESIDENT	Title: Registered Geologist/Vice President
Date: 10-28-02	Date: October 28, 2002

6. Billing:
CLIENT recognizes that timely payment is a material part of this Agreement. EPS will provide a final invoice with the report. Terms are net due upon receipt.

7. Ownership of Documents:
CLIENT acknowledges that EPS's reports, boring logs, field data, field notes, laboratory test data, calculations, estimates and other similar documents ("Records") are instruments of professional service, not products.
EPS will retain these Records for a period of three (3) years following completion of this project. During this time, EPS will reasonably make available the records to the CLIENT. EPS may charge a reasonable fee in addition to its professional fees for storing, retrieving or copying such records.

Data EPS prepares for CLIENT under this Agreement will remain the property of EPS. CLIENT will not use any EPS data or report for any purpose other than its original purpose as defined in the CONTRACT. CLIENT has no rights to incomplete or partial data.

8. Disputes:
In the event that any disputes arise relating to the enforcement, performance, or interpretation of this Agreement or payment of fees, CLIENT and CONSULTANT agree that the prevailing party will be entitled to recover all reasonable costs incurred in the litigation, including court costs, attorney fees, and other claim-related expenses. The parties agree that Arizona law governs this Agreement and any dispute involving the Agreement.
Neither party will be responsible to the other for consequential damages including, but not limited to, loss of profit, loss of investment or business interruption. The CLIENT also agrees to seek recourse only against EPS and not against its officers, employees, directors, or shareholders.

9. Extent of Study:
CLIENT recognizes that actual environmental conditions may vary from conditions encountered at locations where EPS makes visual observations, obtains samples, or performs other explorations. EPS's failure to discover potential environmental contamination through appropriate and mutually agreed-upon sampling techniques does not guarantee the absence of pollution or hazardous materials at a site.

10. Standard of Care:
EPS will perform the Services in accordance with the standards of care and diligence normally practiced by consulting firms performing services of a similar nature in the same locale.

11. Insurance:
During the period that Services are performed under this Agreement, EPS will maintain, at least, the following insurance: (1) Workers' Compensation coverage in accordance with the laws of the states having jurisdiction over its employees engaged in the Services and Employer's Liability Insurance (limit of $500,000 each occurrence.); (2) Commercial General Liability Policy with a limit of $1,000,000 per occurrence and a $1,000,000 aggregate; (3) Business Automobile Liability with a limit of $100,000 aggregate; (4) Professional Liability coverage with a $1,000,000 limit on each claim and a $1,000,000 aggregate; and (5) Pollution Liability coverage with a $1,000,000 limit on each claim and a $1,000,000 aggregate. *CLIENT agrees EPS will not be liable for any loss, damage, or liability arising out of this Agreement beyond the limits, coverage, or conditions of such insurance.*

12. Termination:
Either party may terminate the Services with or without cause upon ten (10) days advance written notice. If CLIENT terminates without cause, CLIENT will pay EPS costs incurred, noncancelable commitments, and fees earned to the date of termination and through demobilization, including any cancellation charges of vendors and subcontractors.

13. Hazardous Substances/Hazardous Waste:
CLIENT represents that if CLIENT knows or has reason to suspect that hazardous substances or pollution may exist at the project site, CLIENT has fully informed EPS. In the event EPS encounters hazardous substances or contamination beyond that originally represented by CLIENT, EPS may suspend its Services and enter into good faith renegotiation of this Agreement.
CLIENT acknowledges that EPS has no responsibility as a generator, treater, storer, or disposer of hazardous or toxic substances found or identified at a site.
CLIENT agrees that it would be unfair for EPS to be exposed to liability arising from the contamination of a site. Therefore, CLIENT agrees to defend, indemnify, and hold harmless EPS, from any claim or liability, arising out of EPS's performance of work under this Agreement and made or brought against EPS for any actual or threatened environmental pollution or contamination provided that EPS does not cause or contribute to any such pollution or contamination. Such indemnification includes reasonable attorney fees and any expenses incurred by EPS in defense of such claim.

14. Schedule:
Any schedule of performance EPS provides is an estimate only. EPS does not accept any liability for failing to complete the Services in accordance with such schedule.

15. Assignment:
The CLIENT will not delegate, assign, sublet, or transfer any interest in this Agreement without the written consent of EPS.

16. Indemnity:
Subject to any limitations stated in this Agreement, EPS will indemnify and hold harmless CLIENT, its officers, directors, employees, and subcontractors, from and against all claims and actions, including reasonable attorneys fees, arising out of damages or injuries to persons or tangible property caused by a professionally negligent act, error, or omission of EPS or any of its agents, subcontractors, and employees in the performance of Services under this Agreement. EPS will not be responsible for any loss, damage, or liability arising from any contributing negligent acts by CLIENT, its subcontractors, agents, staff, or consultants.

17. Independent Status:
EPS is an independent consultant and not the agent or employee of CLIENT.

18. Sample Ownership:
Samples and cuttings of materials containing hazardous contaminants are the property and responsibility of CLIENT. Removal of cuttings from the project site will remain the obligation of CLIENT. Absent direction from CLIENT, EPS may at any time return all contaminated samples and laboratory byproducts to the CLIENT for proper disposal or treatment.

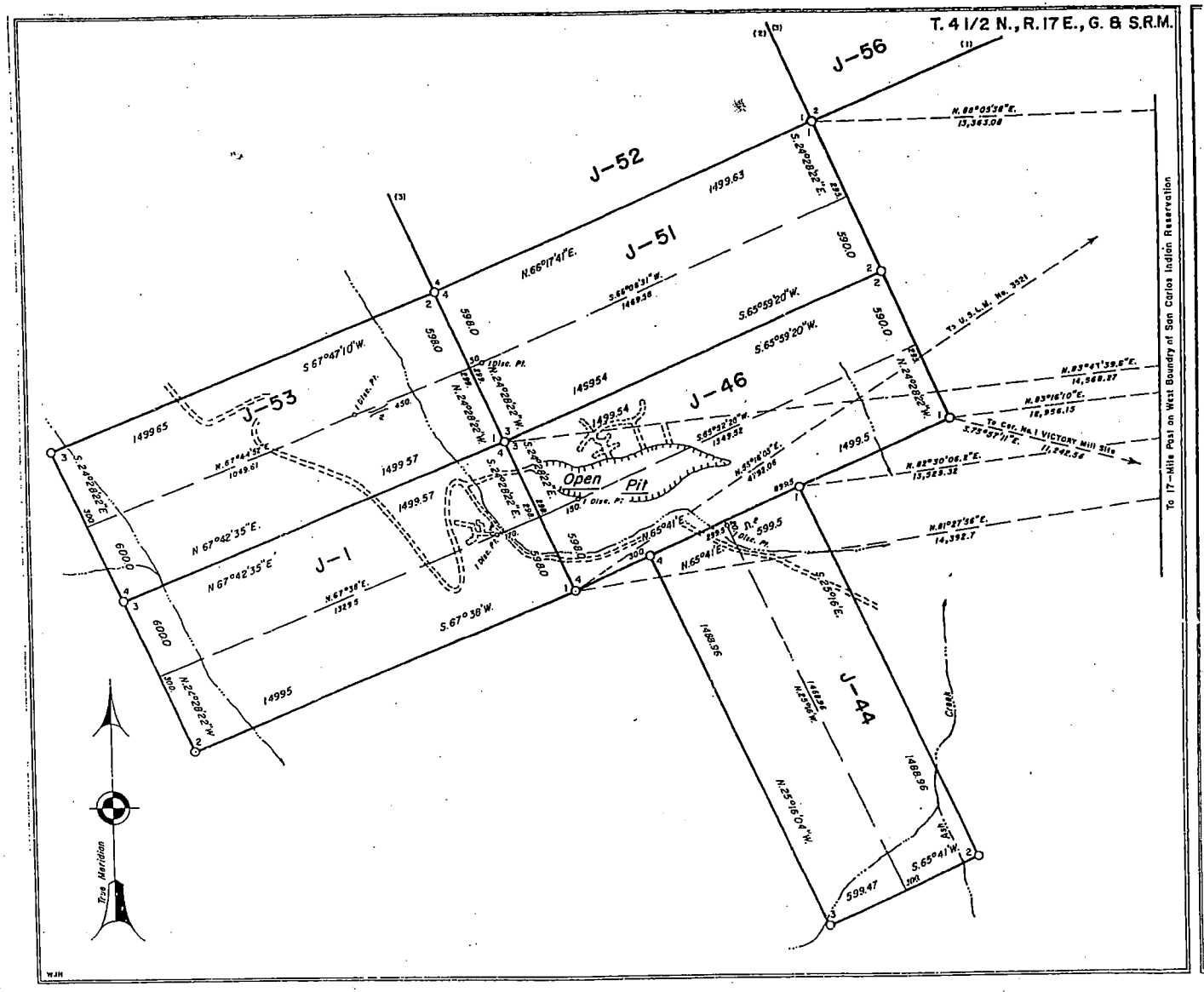
19. Buried Utilities
In those situations where EPS performs subsurface exploration, CLIENT, to the extent of its knowledge, will furnish to EPS information identifying the type and location of utilities and other man-made objects beneath the surface of the project site. EPS will take reasonable precautions to avoid damaging these utilities or objects. Prior to penetrating the site's surface, EPS will furnish CLIENT a plan indicating the locations intended for penetration. CLIENT will approve the location of these penetrations and authorize EPS to proceed.

20. Jobsite Safety
Unless the Proposal provides otherwise, EPS is responsible for safety of its own employees within the work zone necessary to perform the Services.

21. Change Orders
EPS will treat as a change order any written or oral order (including directions, instructions, interpretations or determinations) from CLIENT which request changes in the Services. EPS will give CLIENT notice of the change order of any resulting increase in fee.

22. Third-Party Rights
Except as specifically stated in this Agreement, this Agreement does not create any rights or benefits to parties other than CLIENT and EPS.

23. Complete Agreement
The Parties acknowledge this Agreement constitutes the entire Agreement between them. Unless stated otherwise in this Agreement, this Agreement may not be modified except in a writing signed by both parties.



Sheet 1 of 2

MINERAL SURVEY No. 4740 A&B ARIZONA

CLAIM OF

JAQUAYS MINING CORPORATION

KNOWN AS THE

J-1, J-44, J-46, J-51, J-52, J-53, J-56, J-57 & J-58 LODES And Chrysotile, VICTORY & ELDORADO MILL SITES

SITUATE IN

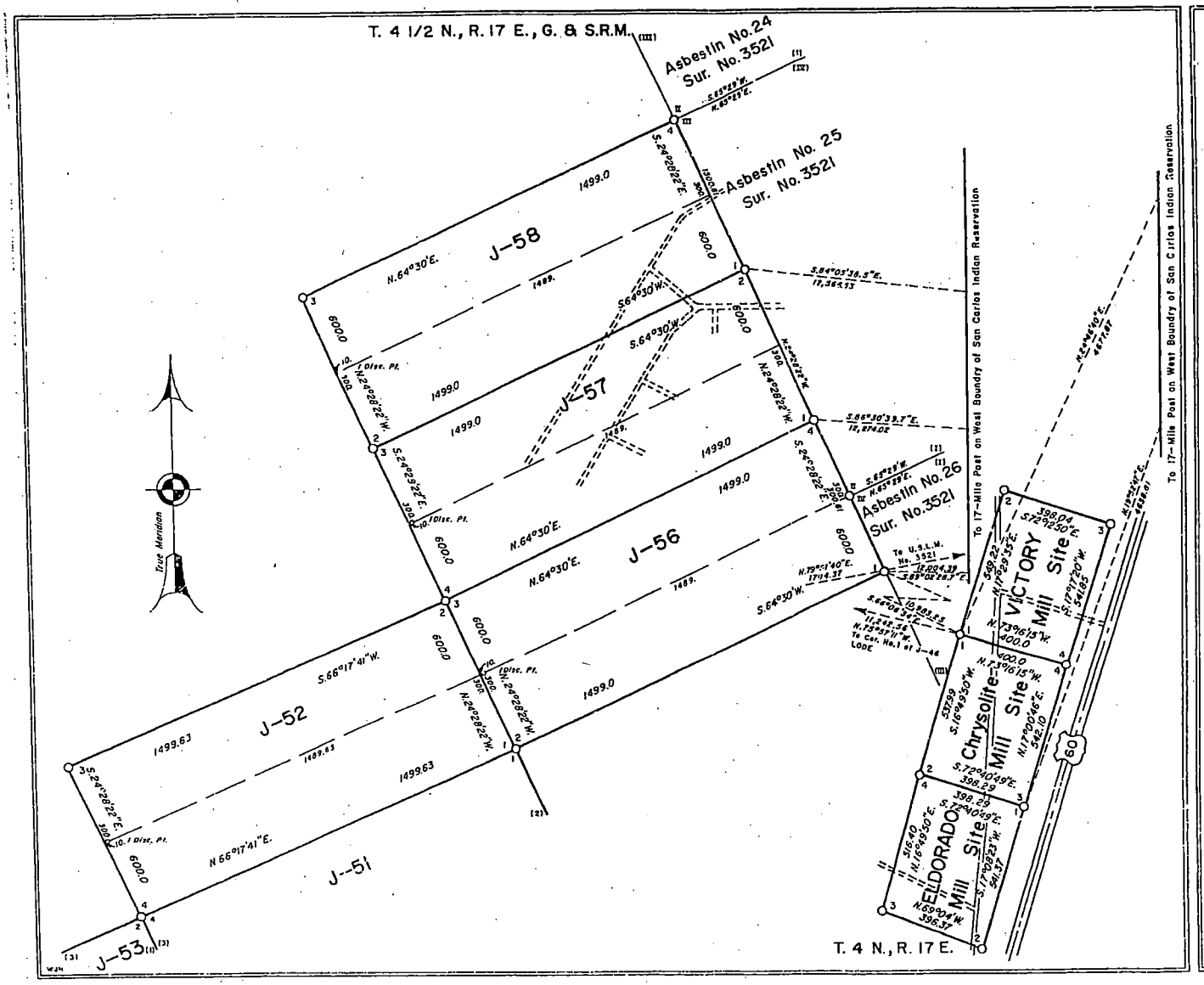
Uns. Secs. 1, 2 and 4, T. 4 N., R. 17 E., AND Uns. Secs. 33 & 34, T. 4 1/2 N., R. 17 E., G. & S.R.M.
GILA COUNTY
McMillian Mining District
Arizona Land District
Lat. 33°43'31" N., Long. 110°34'12" W., at U.S.L.M. No. 3521

0 50 100 200 400 600 800 1000
Feet

Magnetic Declination 14° E.

Copy Of Plat
Mineral Survey Number 4740 A & B
Sheet 1 of 2
(USBLM, 1973)

Scale: 1 inch = about 400 feet



Sheet 2 of 2

MINERAL SURVEY No. 4740 A & B ARIZONA

SITUATE IN
Uns. Secs. 1, 2 and 4, T. 4 N., R. 17 E., AND
Uns. Secs. 33 & 34, T. 4 1/2 N., R. 17 E., G. & S.R.M.
GILA COUNTY
McMillian Mining District
Arizona Land District
Lat. 33°43'31" N., Long. 110°34'12" W., at U.S.L.M.
No. 3521

0 50 100 200 400 600 800 1000
Feet
Magnetic Declination 14° E.

Surveyed July 2, to Oct. 31, 1973
By Travis L. Gant, Mineral Surveyor

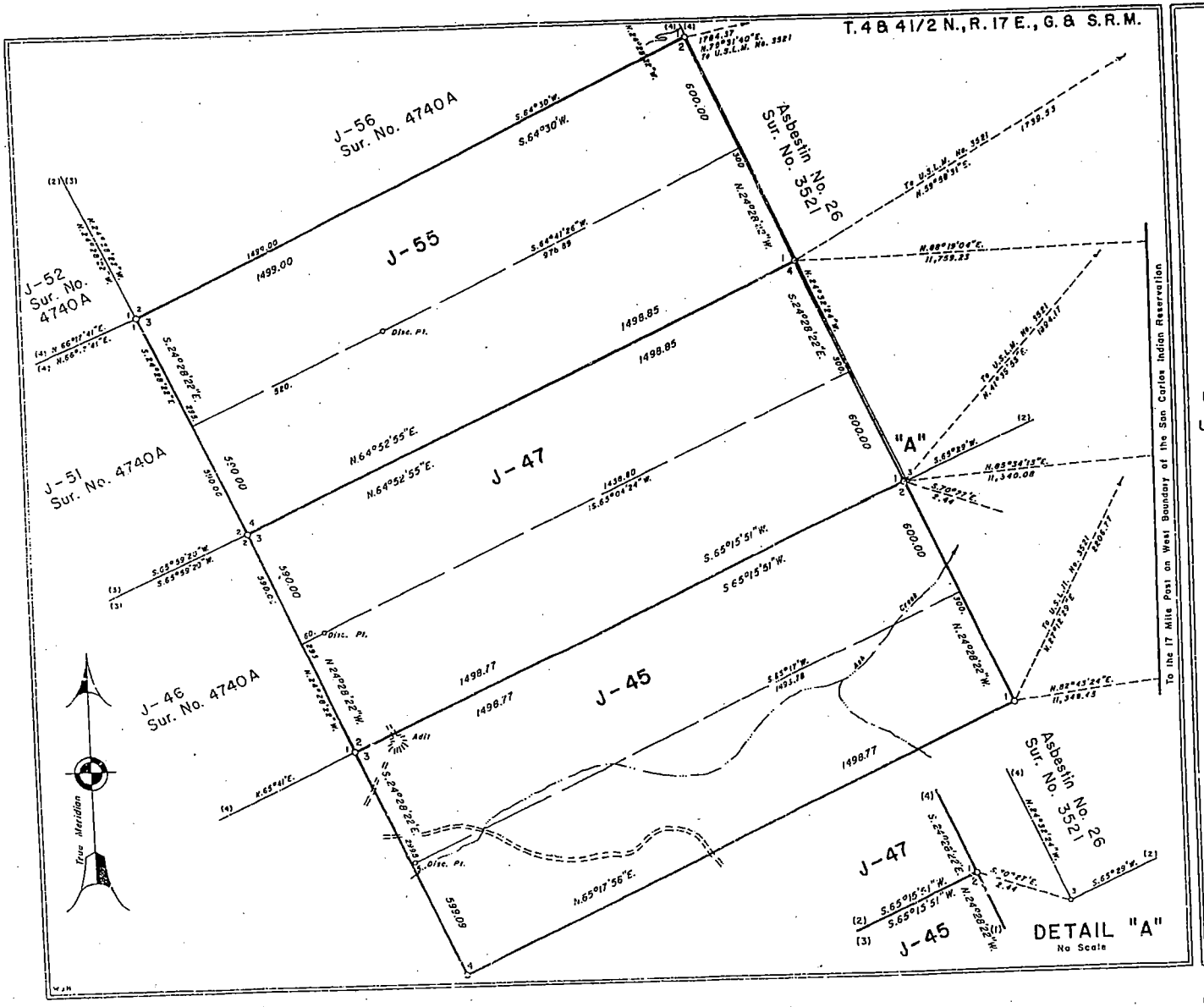
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Phoenix, Arizona, Sept. 11, 1974
I hereby certify that this plat of Mineral Survey No. 4740 A&B, Arizona is strictly conformable to the field notes of said survey which have been examined and approved.

Joe T. Fallini
State Director

Copy Of Plat
Mineral Survey Number 4740 A & B
Sheet 2 of 2
(USBLM, 1973)

Scale: 1 inch = about 400 feet



MINERAL SURVEY No. 4794 ARIZONA

CLAIM OF
JAQUAYS MINING CORPORATION

KNOWN AS THE
J-45, J-47 & J-55 LODES

SITUATE IN
Uns. Secs. 3 & 4, T. 4 N., R. 17 E., G. & S.R.M.
&
Uns. Secs. 33 & 34, T. 4 1/2 N., R. 17 E., G. & S.R.M.
GILA COUNTY
McMillan Mining District
Arizona Land District
Lat. 33°43'31"N., Long. 110°34'12"W., at Cor. No. 2, J-47 Lode

0 50 100 200 300 400 500 600
Feet
Magnetic Declination, 14° E.

Surveyed, Sept. 18 to Sept. 30, 1977,
By Travis L. Gant, Mineral Surveyor.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Arizona State Office

Phoenix, Arizona, June 1, 1979
I hereby certify that this plat of Mineral Survey No. 4794, Arizona, is strictly conformable to the field notes of said survey which have been examined and approved.

James P Kelley

Acting Chief, Branch of Cadastral Survey

Copy Of Plat
Mineral Survey Number 4794
Sheet 1 Of 1
(USBLM, 1979)

Scale: 1 inch = about 250 feet

APPENDIX B

APPENDIX B

LABORATORY TEST REPORTS AND CHAIN-OF CUSTODY DOCUMENTATION

FIBERQUANT ANALYTICAL SERVICES

Polarized Light Microscope (PLM) Analysis for Asbestos

JobNumber: 2002-8006

Client: ENVIRONMENTAL PROFESSIONAL

SVCS INC
4603 E DOWNING ST
MESA, AZ 85205-0000
Office Phone: (480) 924-8078
FAX: (480) 924-7807

COPY

 # Samples: 12 PLM **Rec:** 10/30/2002 **Method:** EPA 600/R-93/116 PLM analysis for asbestos in bulk smp
Client Job: 22172/Markour **PO Number:** **Routing Number:** -
Report Date: 10/31/2002 **Date Analyzed:** 10/30/2002

Method and Analysis Information:

Each bulk sample is first dissected under a 7-30x magnification stereo-microscope. This examination is used to determine the general type of sample, how many and what type of layers it has, and initial estimates of fiber types and quantities. Second, liquid media mounts are made of each layer - such mounts may be of selected fibers (used solely for identification purposes) or may be representative of the layer as a whole (used for quantitation purposes). The mounts may be made in a synthetic Canadian balsam, one of several solvents, or in refractive index oils (media of known refractive index). Generally, a variety of different mounts are made: some optimized for fiber visibility, some optimized for fiber identification, and some optimized for fiber quantitation. The mounted slides are then examined at 50-400x magnification on a Nikon Labphot-pol microscope. Optical characteristics are used to identify each observed fiber type; the optical data are contained for each sample on its detail analysis sheet, attached.

Current EPA, NESHAP and OSHA regulations designate a result of <=1 % asbestos as "negative" and >1 % asbestos as "positive". Samples containing layers that have been determined to be "positive" may have to be handled differently during a renovation or demolition than samples whose layers have been determined to be "negative."

The method of fiber analysis and identification is the EPA Method 600/R-93/116. The method of fiber quantitation is an estimation technique in which the analysts quantitation is routinely calibrated by reference quantitation standards, and which has been shown to be equivalent in precision and accuracy to point counting. Friability is estimated for the purposes of deciding when to point count. Friabilities determined in the field take precedence over those determined in the laboratory. Those sample layers which are friable and estimated by the analyst to contain <= 1% asbestos are point counted using 400 points. Such point counting is required by NESHAP (National Emission Standards for Hazardous Air Polutants, Nov. 1990) in order to rely on analytical results that are <= 1%. The coefficient of variation for the estimation quantitation technique is 100% in the range 0-5%. This means that PLM analysis is not capable of conclusively determining whether a layer containing close to 1% asbestos is actually "positive" or "negative". For this reason, Fiberquant refers to results where asbestos was detected but <= 1% as "borderline negative", and results where asbestos was >1 % but <= 2% as "borderline positive" to indicate the uncertainty in assigning a "positive" or "negative" label. In the sample summary, "ND" means that no asbestos was detected during the analysis. A "Tr" or "Trace" of asbestos reported is defined for our purposes as the detection of several asbestos fibers during the analysis; this level would be right at the limit of detection for the method. Trace is only reported on the analysis detail - in the summary a trace would be reported as <=1%. The limit of detection (the smallest % of asbestos that can be detected) varies greatly depending on the matrix in which the asbestos is found. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 1% stated in the method. During the analysis, the analyst, for Fiberquant identification purposes only, determines the "apparent sample type" and "apparent layer types." It must be emphasized that these types are only what is apparent. Often, different materials appear similar or identical after sampling, so the analyst may assign a type other than what was sampled.

Floor tiles present a special problem for PLM asbestos analysis. Floor tile can contain chrysotile fibers so thin that they cannot be resolved by optical methods. In such a case, we may observe a percentage of asbestos which is lower than the actual percentage, and the reported percent asbestos can only be considered the minimum that may be present. 30% is the generally acknowledged maximum amount of asbestos that manufacturers placed in floor tiles. A gravimetric TEM method should be used to obtain an accurate % of asbestos in floor tiles.

The samples were analyzed under the following ongoing quality assurance program: Blank samples are routinely analyzed to maintain contamination-free materials. Each analyst has at least a bachelor's degree in physical science, and has also completed extensive training specific to asbestos analysis for 1-3 months before being allowed to analyze client samples. Qualitative reference samples are routinely analyzed to assure that analysts can identify asbestos and asbestos-look-alike fibers. Quantitative reference samples are routinely analyzed to calibrate and characterize the estimation procedure. Microscope alignment is checked each day. Refractive index oils are calibrated at least quarterly. At least 10% of client samples are re-analyzed from scratch by a different analyst than the original, and any discrepancies are resolved for the sample and similar sample types before the results are reported. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. All analysts participate in interlab round robins and proficiency testing to assure competence. Fiberquant is accredited by NVLAP for the analysis of bulk samples for asbestos using PLM. Accreditation does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Job Analysis Notes:

PLM Analysis Summary: **Job Number: 2002-8006** 22172/Markour

Sample Number / Layer	Color	Apparent Layer Type *	Lab Number	Apparent Sample Type * / Asbestos Results	Positive Layer Yes or No
Sample AS-1 Layer # 1	Brown	soil	2002-8006- 1	Soil *no asbestos detected*	Positive Layer? No
Sample AS-2 Layer # 1	Brown	soil	2002-8006- 2	Soil *no asbestos detected*	Positive Layer? No
Sample AS-3 Layer # 1	Brown	soil	2002-8006- 3	Soil *no asbestos detected*	Positive Layer? No
Sample AS-4 Layer # 1	Brown	soil	2002-8006- 4	Soil *no asbestos detected*	Positive Layer? No
Sample AS-5 Layer # 1	Brown	soil	2002-8006- 5	Soil *no asbestos detected*	Positive Layer? No
Sample AS-6 Layer # 1	Brown	soil	2002-8006- 6	Soil *no asbestos detected*	Positive Layer? No
Sample AS-7 Layer # 1	Brown	soil	2002-8006- 7	Soil *no asbestos detected*	Positive Layer? No
Sample AS-8 Layer # 1	Tan	soil	2002-8006- 8	Soil *no asbestos detected*	Positive Layer? No
Sample AS-9 Layer # 1	Brown	soil	2002-8006- 9	Soil *<=1% chrysotile asbestos*	Positive Layer? No
Sample AS-10 Layer # 1	Brown	soil	2002-8006- 10	Soil *no asbestos detected*	Positive Layer? No
Sample AS-11 Layer # 1	Tan	soil	2002-8006- 11	Soil *>1-2% chrysotile asbestos*	Positive Layer? Yes
Sample AS-12 Layer # 1	Tan	soil	2002-8006- 12	Soil *<=1% chrysotile asbestos*	Positive Layer? No

* Apparent Sample Types and Apparent Layer Types are as they appeared to the analyst. Since many types of materials appear similar after sampling damage, the apparent type of material may not be the actual type of material.

Sample AS-1 **Lab Number** 2002-8006- 1 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3

Total % 100

Percents of Each Fiber	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	<=1%	-	-	-	-	-
Average %	<=1%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations	Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-2 **Lab Number** 2002-8006- 2 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3

Total % 100

Percents of Each Fiber	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	2-5%	-	-	-	-	-
Average %	2-5%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations	Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-3 **Lab Number** 2002-8006- 3 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	5-10%	-	-	-	-	-
Average %	5-10%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-4 **Lab Number** 2002-8006- 4 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	2-5%	-	-	-	-	-
Average %	2-5%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-5 **Lab Number** 2002-8006- 5 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3

Total % 100

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	2-5%	-	-	-	-	-
Average %	2-5%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample. Several live termites? Were observed in this sample.

Sample AS-6 **Lab Number** 2002-8006- 6 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3

Total % 100

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	2-5%	-	-	-	-	-
Average %	2-5%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-7 **Lab Number** 2002-8006- 7 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	2-5%	-	-	-	-	-
Average %	2-5%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-8 **Lab Number** 2002-8006- 8 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 4

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Tan	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	<=1%	-	-	-	-	-
Average %	<=1%	-	-	-	-	-
Fiber Identification:	cellulose fiber					

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2								
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample. This sample contained cementicious building materials.

Sample AS-9 **Lab Number** 2002-8006- 9 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 6

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	>1-2%	<=1%	-	-	-	-
Average %	>1-2%	<=1%	-	-	-	-
Fiber Identification:	cellulose fiber	chrysotile asbes				

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2	chrysotile asbestos	W	A	N	N	L	+	P
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per
1.550	sb/o	gb/dr	1.553	1.545

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample. Several asbestos fibers were observed including one large (unprocessed appearing) bundle. This may be naturally occurring asbestos.

Sample AS-10 **Lab Number** 2002-8006- 10 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 6

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Brown	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	>1-2%	<=1%	-	-	-	-
Average %	>1-2%	<=1%	-	-	-	-
Fiber Identification:	cellulose fiber	silk/spider web				

Fibers

		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2	silk/spider web	W	E	N	N	L	+	P
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample.

Sample AS-11 **Lab Number** 2002-8006- 11 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** Yes **# Sub-Samples** 6

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Tan	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	>1-2%	>1-2%	-	-	-	-
Average %	>1-2%	>1-2%	-	-	-	-
Fiber Identification:	cellulose fiber	chrysotile asbes				

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2	chrysotile asbestos	W	A	N	N	L	+	P
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per
1.550	sb/o	gb/dr	1.553	1.545

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample. Two apparent sources of asbestos were observed - white insulation pieces and loose fibers.

Sample AS-12 **Lab Number** 2002-8006- 12 **Sampled:** 10/29/2002

Analyzed By RAM 10/30/2002 **An?** OK **Apparent Smp Type** Soil Powder

Homogeneous No **# Layers** 1 **Pos Layer?** No **# Sub-Samples** 6

Non-Fibrous Components (in approx. decreasing order): powder, rock,

Layers

#	Layer Type	%	Color	Friability
1	soil	100	Tan	3
	Total %	100		

Percents of Each Fiber

	Fib 1	Fib 2	Fib 3	Fib 4	Fib 5	Fib 6
	>1-2%	<=1%	-	-	-	-
Average %	>1-2%	<=1%	-	-	-	-
Fiber Identification:	cellulose fiber	chrysotile asbes				

Fibers		Color	Mrph	Iso	Pleo	Bi	Elg	Ext
1	cellulose fiber	W	F	N	N	H	+	U
2	chrysotile asbestos	W	A	N	N	L	+	P
3								
4								
5								
6								

Refractive Index Determinations

Oil	Col Par	Col Per	RI Par	RI Per
1.550	sb/o	gb/dr	1.553	1.545

Sample Analytical Note

Procedure: tweased apart using forceps. Procedure: dissolution of matrix using dilute HCl acid. Note: This sample is an unconsolidated or soil sample. Plm analysis is not capable of detecting single or airborne asbestos fibers in such a sample. Two apparent sources of asbestos were observed - a white insulation and loose fibers. Only a trace of loose asbestos fibers were observed.

Fr=Friability: 1=very non-friable; 2= non-friable; 3=friable; 4=highly friable
Fiber Colors: B=black; BL=blue; BR=brown; CL=clear; G=Green; GY=gray; OR=orange; OW=off-white; PN=pink; PU=purple; R=red; TN=tan; W=white; Y=yellow
Fiber Morphology: A=fine fibers/bundles, white, sinewy, flexible; B=fine fibers/bundles, w-br, straight, broomed ends; C=fine fibers/bundles, blue, straight, broomed ends; D=fine to coarse fibers, CL-B, brittle; E=coarse fibers,CL or dyed, striated; F=coarse fibers or splinters, W-BR, ribbon-like; G=lath-like or shards, low aspect ratio, may taper
Iso=isotropism - may be yes or no; Pleo=pleochroism - may be yes or no; Bi=birefringence - may be None, Low, Medium or High
Elg=sign of elongation - may be + or -; Ext=extinction - may be Parallel, Oblique, None or Undulating; Oil=medium used to for dispersion staining
Col Par=dispersion staining colors parallel to the fiber (fiber/halo): b/w=black/white; dg/py=dark gray/pale yellow; vg/y=violet gray/yellow; db/ly=dark blue/lemon yellow; vb/g= vivid blue/gold; sb/o=sky blue/orange; pb/r=pale blue/red; gb/dr=gray blue/dark red; w/b=white/black. Col Perp=same only perpendicular to fiber.
RI Par=refractive index parallel to fiber; RI Perp=refractive index perpendicular to fiber

Analyst: ROBERT A. McCORMICK

Printed: 31-Oct-02

Original Print Date: 30-Oct-02

Larry S. Pierce, Approved Accreditation Signatory

FIBERQUANT ANALYTICAL SERVICES

Determination of Asbestos in Water using TEM

JobNumber: 2002-8007

Client: ENVIRONMENTAL PROFESSIONAL
SVCS INC
4603 E DOWNING ST
MESA, AZ 85205-0000
Office Phone: (480) 924-8078
FAX: (480) 924-7807

 # Samples: 2 TEM **Rec:** 10/30/2002 **Method:** EPA 100.1 TEM Water
Client Job: 22172/Markour **PO Number:** **Routing Number:** -
Date Analyzed: 10/31/2002

Method and Analysis Information:

Samples are analyzed using the protocols given in EPA method 100.1, as amended by the 1993 EPA guidence. Samples should be un-preserved water in 1 L containers having about 200 ml headspace for shaking. There is a 48 hr deadline between the time the sample is taken and the time it is filtered to minimize loss of asbestos fibers due to biological interference. Each sample is shook for 1 minute, and ultrasonicated for at least 10 minutes, shaking every 5 minutes to disperse any fibers that are present. A measured amount of sample is then filtered through a 0.1 um pore size polycarbonate filter, backed by a 5 um pore size MCE filter and a glass frit. Several volumes of liquid may be filtered for each sample in order to assure that a properly loaded sample is obtained. A portion of each resulting filter (and blanks) is then coated with 100-200 um of carbon in a Denton 502A Carbon Evaporator. The carbon encapsulates all of the larger and most of the smaller particulate on the filter. Three mm square pieces of the coated filter are placed on three or more copper TEM grids, and the original filter material is dissolved away in a Jaffe wick and/or condensation washer. The finished replica in carbon containing the particulate is then examined on a JEOL 1200 or Phillips CM 10 transmission electrom microscope at 10,000 to 20,000x magnification. All asbestos fibers >10um in length are tabulated and characterized as asbestos or non-asbestos using a combination of morphology, electron diffraction characteristics, and elemental composition. The result is calculated in millions of fibers per liter (MFL). The grid is scanned until 20 grid openings have been observed, or until an analytical sensitivity (the hypothetical observation of one fiber) of 0.2 MFL has been reached. The nominal 20 grid opening cut-off is used for those samples containing so much non-asbestos particulate that the desired analytical sensitivity is impractical to attain.

The method was designed to determine EPA drinking water compliance. The standard for drinking water is <7 MFL as measured by this method.

Overall, the coefficient of variation can be expected to be approximately 0.5 for analyses in which >20 asbestos fibers have been counted, ranging up to 1.00 for analyses in which only a few asbestos fibers are counted.

The analysis was performed under an ongoing quality assurance program which includes: Lab blanks, prepared with each set of samples, and analyzed at the rate of one per 25 samples analyzed. Each analyst has suitable background credentials, such as at least a bachelor's degree in geology or chemistry, and has undergone extensive 2-6 month training in TEM techniques and mineralogy specific to TEM asbestos analysis before being allowed to perform client analyses. Unknown reference samples are routinely identified to ensure that each analyst can collect and correctly interpret TEM information. The TEM is aligned and its performance checked daily. Magnification, electron diffraction pattern size, and analytical performance characteristics are calibrated routinely. Samples are re-analyzed sometimes by the same analyst and sometimes by a different analyst in order to determine accuracy and precision. The total of QC analyses (blanks + recounts) are greater than 10% of analyzed samples. Each analyst participates in interlab round robins and proficiency testing in order to show correlation to other lab's analyses. Because TEM samples are not analyzed in batches, which would be traditional for most water analyses, and not every blank is read, and not every sample has a duplicate or replicate analysis associated with it, it is not possible to include a traditional QC report with the analysis. QC reports are produced monthly, and are available on request. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. Fiberquant is accredited by NVLAP to perform TEM analysis of asbestos in air samples, and has been found to be proficient in the EPA water proficiency program. Accreditation or proficiency does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Job Analysis Notes:

	Date	Time		
Sampled:	10/29/2002	13:50	By:	Environmental Professional
Received:	10/30/2002	9:24		
Filtered:	10/30/2002	10:55		
Analyzed:	10/31/2002	14:05		

Analysis Results:

Lab Number	Client Number	Date	Filtered Vol (ml)	#GOs	GO Area	MFL	AsbestosType	Sensitivity (MFL)
							Job Number:	2002-8007
2002-8007-1	Ash Creek Water	10/29/2002	25	18	0.00901	<.2	-	.2
2002-8007-2	House Water	10/29/2002	25	18	0.00901	<.2	-	.2

David M. Schaller

Analyst: DAVID M. SCHALLER

Printed: 31-Oct-02

Original Print Date: 31-Oct-02

Larry S. Pierce

Larry S. Pierce, Approved Accreditation Signatory

Job Number:	2002-8007

QA Report: Job Number:	2002-8007

1. Calibrations	
TEM magnification. date of last.	10/7/2002
TEM camera constant. date of last.	10/30/2002
EDS performance check (k-factors, resolution, low-e perf.). date of last.	4/5/2002
TEM stage drift, minimum beam size. date of last.	4/5/2002
plasma asher. date of last.	9/27/2002

2. Blanks (1/25 samples required)	x not required this job _____ str/mm2

3. Recounts (1/17 samples required)	x not required this job _____ Rel%Diff

4. Analyst Performance	
NVLAP proficiency testing	x current
verified counts. cum. % true positives	90.3
verification of diffraction pattern identifications. cum. % correct	99.6
verification of EDS spectra. cum. % correct	94.9

FIBERQUANT ANALYTICAL SERVICES

Company: Environmental Professional Svcs, Inc
Address: 4603 E Downing St.
City,State,Zip: Mesa AZ 85205
Phone: 480 9248078 Fax: 480 924 7807

Invoice to: Enviro Prof. Svcs Inc
Address: 4603 E Downing
City,State,Zip: Mesa AZ 85205
Phone: _____ Fax: _____

CONTACT (PRINT) Jerald Waldner | SAMPLER (SIGNATURE) Jerald Walder | JOB NUMBER or PROJECT NAME 22172 Markour | PO NUMBER

SAMPLE NUMBER	DATE TAKEN	FLOW RATE	TIME ON & OFF	AIR Volume OR AA Area	SAMPLE LOCATION	COMMENTS (Type of Material, Activity, ETC.)
1) AS-1	10/29/02	⊖	⊖	⊖	J-1	Soil Sample 1415
2) AS-2	10/29/02	⊖	⊖	⊖	J-52 ~~along road~~ DW	Soil Sample 1440
3) AS-3	10/29/02	⊖	⊖	⊖	J-52	Soil Sample 1450
4) AS-4	10/29/02	⊖	⊖	⊖	J-57	Soil Sample 1455
5) AS-5	10/29/02	⊖	⊖	⊖	J-58	Soil Sample 1500
6) AS-6	10/29/02	⊖	⊖	⊖	J-56	Soil Sample 1505
7) AS-7	10/29/02	⊖	⊖	⊖	J-55	Soil Sample 1515
8) AS-8	10/29/02	⊖	⊖	⊖	J-1 along road	Soil Sample 1545
9) AS-9	10/29/02	⊖	⊖	⊖	Creek Bottom Below House	Soil Sample 1615
10) AS-10	10/29/02	⊖	⊖	⊖	Creek Bottom Below Pond	Soil Sample 1625
11) AS-11	10/29/02	⊖	⊖	⊖	Bunkhouse-Road	Soil Sample 1645
12) AS-12	10/29/02	⊖	⊖	⊖	Jailhouse - Road	Soil Sample 1710
13) Ash Creek Water	10/29/02	⊖	⊖	⊖	Upper Ash Creek	Water Sample 1350
14) House Water	10/29/02	⊖	⊖	⊖	Water piped to house/pond	Water Sample 1625
15)						
16)						
17)						
18)						
19)						
20)						

ONLY ONE SAMPLE TYPE PER COC

TYPE-----METHODS

PLM Improved Interim
'Use 'ATPF' Criteria? if Yes Lyr or Smpl

PCM 7400/Areas 0RM/Personals

TEM Ahera Mod/Ahera
Gravimetry (Call for TAT)
Bulk Dust Water Sludge

AA As Cd Cr Cu Ni Pb Zn
Filters: MCE Fiberglass
Paint: by Area by Weight
Soil
Wipe (see below)
Do these wipes meet ASTM specs?
NO ☐ *YES* ☐

MOLD Bulk Zefon Air-O-Cell

Other

TURNAROUND CIRCLE REQUEST !!!!!! TAT ARE AVERAGE PLEASE CALL TO CONFIRM !!!!!! (R = Rush N = Normal E = Extended)

PCM	PLM	TEM AIR	TEM WATER	AA / MOLD
R <4 Hrs	(R) <6 Hrs	R <6 Hrs	(R) 1-2 Days	R <6 Hrs
N 24 Hrs	N 1-3 days	N 24 Hrs	N 3-5 Days	N 2-3 Days
E 3-5 Days	E 15-30 days	E 3-5 Days		

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Jerald J Walder	10/30/02	0745	Diane Waldner	10/30/02	924			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Diane Waldner	10/30/02	0745					10.30.02	9:24