



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](mailto:inquiries@azgs.az.gov)

The following file is part of the JABA, Inc. Tombstone Mining Records

#### **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.

0051

Drilling







DRILLING SERVICES INC.

# DRILLER'S DAILY DRILL REPORT

## DRILLING INFORMATION

AND DRILLING STATISTICS

Client S.E.A. Date 12-7 1977  
 Drilling Location: PATAGONIA Job No. 6414 P.II

### ACCOUNTING FOR DAILY ACTIVITY

ITEM	DESCRIPTION OF ITEM	HOURS
1.	Mob: <input type="checkbox"/> Demob: <input type="checkbox"/> travel.	1
2.	Daily travel to the field.	
3.	Set blowout preventer.	
4.	Set surface casing.	
5.	Pull surface casing.	
6.	Move between holes.	
7.	Drilling & sampling (tricone).	(10 1/2)
8.	Drilling & sampling (hammer).	
9.	Drilling (diamond coring).	
10.	Reaming.	
11.	Running into hole.	
12.	Pulling out of hole.	
13.	Hole stabilization.	
14.	Drilling out stabilized hole.	
15.	Water haulage.	
16.	Water tests.	
17.	Weather delay.	
18.	Repair & service equipment.	1
19.	Logging operations.	
20.	Standby with crew.	
21.	Standby without crew.	
22.	Working on stuck pipe.	
23.		
24.		
25.		
26.		
27.		
TOTAL		12 1/2

### DISTRIBUTION OF DAILY AND/OR SHIFT HOURS

S H I F T		DAY	<input checked="" type="checkbox"/>
FROM		TO	ITEM #
7:00 AM	to	7:30 AM	22
7:30 AM	to	8:00 AM	
8:00 AM	to	8:30 AM	
8:30 AM	to	9:00 AM	
9:00 AM	to	9:30 AM	
9:30 AM	to	10:00 AM	
10:00 AM	to	10:30 AM	
10:30 AM	to	11:00 AM	
11:00 AM	to	11:30 AM	7
11:30 AM	to	12:00 N	
12:00 N	to	12:30 PM	
12:30 PM	to	1:00 PM	
1:00 PM	to	1:30 PM	
1:30 PM	to	2:00 PM	
2:00 PM	to	2:30 PM	
2:30 PM	to	3:00 PM	18
3:00 PM	to	3:30 PM	
3:30 PM	to	4:00 PM	
4:00 PM	to	4:30 PM	
4:30 PM	to	5:00 PM	
5:00 PM	to	5:30 PM	8
5:30 PM	to	6:00 PM	
6:00 PM	to	6:30 PM	
6:30 PM	to	7:00 PM	
7:00 PM	to	7:30 PM	2
7:30 PM	to	8:00 PM	
8:00 PM	to	8:30 PM	
8:30 PM	to	9:00 PM	
9:00 PM	to	9:30 PM	
9:30 PM	to	10:00 PM	
10:00 PM	to	10:30 PM	
10:30 PM	to	11:00 PM	
11:00 PM	to	11:30 PM	
11:30 PM	to	12:00 PM	
12:00 PM	to	12:30 AM	
12:30 AM	to	1:00 AM	
1:00 AM	to	1:30 AM	
1:30 AM	to	2:00 AM	
2:00 AM	to	2:30 AM	
2:30 AM	to	3:00 AM	
3:00 AM	to	3:30 AM	
3:30 AM	to	4:00 AM	
4:00 AM	to	4:30 AM	
4:30 AM	to	5:00 AM	
5:00 AM	to	5:30 AM	
5:30 AM	to	6:00 AM	
6:00 AM	to	6:30 AM	
6:30 AM	to	7:00 AM	

Hole No.	Ft/Meters Casing set OR Recovered This Hole	Previous Shift Ft/Meters Drilled This Hole	Ft/Meters Drilled This Shift Today	Total of All Ft/Meters Drilled This Hole	Total Ft/Meters Chargeable Today This Shift	FORMATION: overburden, sand, gravel, clay, shale, sandstone, limestone, water, etc. (describe briefly).	
						FROM	TO
12		95	245	340			FRACTURED - INTERCHANGE PLUGGING
TOTAL FT. AND/OR METERS CHARGEABLE TODAY							

EMPLOYEE'S NAMES		TOTAL HOURS
DRILLER	D. Puffling	12
HELPER	L. Holbrook	11 1/2
HELPER	A. Watson	11 1/2

DESCRIPTION	UNIT NO.
Drill unit	404
Flatbed truck	204
Water truck	302
Pickup truck	105
Fuel trailer	
Mud pump	
Comp/booster	
Light Plant	
Welder	
Hammer drill	

### BRIEF EXPLANATION OF MAINT. HRS. (give unit no.)

7:30-2:30 DRILLING (TRICONE)  
 2:30-3:00 TRIP FOR BIT  
 3:00-3:30 WELD INTERCHANGE SLEEVE  
 3:30-2:00 DRILLING  
 GENERAL REMARKS: WITH HAMMER

**CHARGEABLE SERVICES**  
 MOB & DEMOB: Total miles \_\_\_\_\_ and/or \_\_\_\_\_ hours  
 DAILY Travel time to & from job: \_\_\_\_\_ hours  
 Stand by: day  with crew \_\_\_\_\_ hours  
 without crew \_\_\_\_\_ hours

**DRILLING SUPPLIES SUPPLIED/CONSUMED**  
 RECORD ALL DRILLING SUPPLIES CONSUMED  
 CHECK OFF NON-CHARGEABLE ITEMS (NC)

REFER TO CONTRACT OR JOB SHEET & COMBINE ALL APPLICABLE CHARGEABLE HOURS (ITEM DESCRIPTION) AND REPORT AS:

Tricone/button bit drilling: } 10 1/2 hours  
 Rotary down the hole hammer drilling: } hours  
 Diamond drilling: 1 hours

DRILLING SUPPLIES		DRILLING BIT RECORD			
NC	QTY.	DESCRIPTION	Make	Type	Serial No.

Other chargeable hours \_\_\_\_\_ hours  
 record separately: ~~Hammer~~ 1 hours

TOTAL CHARGEABLE HOURS THIS SHIFT AND/OR THIS DAY: 10 1/2 hours

DRILLER/SUPERVISOR REMARKS & APPROVAL: David Puffling

CLIENT'S REMARKS: Drilling 1522.50  
 WATER 2.00  
 Charges 1524.50

ALL APPLICABLE HOURS, FOOTAGE & SUPPLIES CONSUMED ARE CHARGEABLE AS SHOWN UNLESS OTHERWISE NOTED ABOVE.

CLIENT APPROVAL OF CHARGES: Thomas E. Walker Date 12-2-77 197





Exha ATTACHMENT A

JABA Services

DRILLING SERVICES INC.  
1521 SOUTH INDIAN BEND ROAD  
SUITE 3  
TEMPE, ARIZONA 85281  
PHONE (602) 968-2414

\* PROPOSED OUTLINE FOR  
OFFER OF DRILLING SERVICES

WESTLAND Minerals Exploration, Inc.  
TO: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

DATE: April 19, 1988  
November 8, 1977

(Hereinafter referred to as client)

QUOTATION NO.: 801

FOR THE WARREW HINKS JR  
ATTENTION OF: Mr. Tom Waldrip

DRILLING SERVICES TO BE PERFORMED BY:  
Drilling Services Inc. Jaba Services, Inc.  
(Hereinafter referred to as contractor)

A. GENERAL INFORMATION:

in the Exploration Agreement and.

The contractor will undertake the work herein on a contract basis subject always to the terms, conditions, provisions and information contained herein:

1. Location of Work:

As <sup>contractor</sup> current knowledge Pattee  
In the vicinity of Patagonia, Arizona.

2. Formation:

Volcanic & Sedimentary  
Gila type formation (soft & weathered) with hardrock below.

3. Proposed Method of Drilling and Sampling:

The reverse circulation rotary method (RCR) will be employed using double wall drill pipe, full bore tricone and/or insert bits and reverse circulation air/water flow to drill and sample the formation. A continuous sample of the geologic formation will be recovered up through the center of the double wall drill pipe and the sample will be discharged at the surface via a cyclone directly into a contractor supplied sample splitter. Water will be injected into the air flow on a continuous and/or intermittent basis to assist in the recovery of the sample. Should it be necessary and/or desirable to drill the hard formations with a down the hole hammer drill, the double wall drill pipe, interchange sub and down the hole hammer drill configuration would be utilized.

4. Hole Size, Angle and Maximum Depth:

Holes shall be a minimum diameter of ~~4 7/8~~" drilled vertically to a maximum depth of ~~800~~ feet. <sup>400-500</sup> Angle holes, from 30 degrees to 45 degree from vertical. will have a service charge of \$.50 per foot.

5. Scope of Work and Drilling Requirements:

It is estimated that this drilling program would be for a total of ~~2~~ holes for an approximate total footage of ~~650~~ feet.

After setting of <sup>surface tool</sup> the blowout preventer and/or surface casing, drilling would proceed to provide sample from each 5 foot interval. The hole will be blown <sup>clean</sup> out on each each five feet.

\* See Section 14 of exploration agreement.



B. THE CONTRACTOR PROMISES AND AGREES:

1. To furnish equipment as per Schedule "A" attached.
2. To furnish personnel as per Schedule "B" attached.
3. To provide a board and room ~~allowance~~ for contractor furnished personnel.
4. To provide parts, supplies, materials, fuels and lubricants pertinent to the efficient performance of this undertaking, excepting casing, cement, rotary, diamond and down the hole hammer) ~~bits~~, <sup>bits</sup> WATER, drilling chemicals.
5. To procure, at the request of client's representative, such additional supplies, materials, personnel and equipment as may be necessary for the efficient operation and completion of the drilling assignment. Compensation for the procurement of such additional supplies, materials, personnel and equipment shall be at the rates set forth in Schdeule "C" attached.
6. To leave the drill site free of all debris resulting from the work performed by the contractor (excepting drill cuttings).
7. To conduct all operations hereunder in full compliance of all rules and regulations adopted by any government agency whether Federal, State, City or Municipal.
8. To prepare a daily drill log summarizing in detail the days activities including consumable and chargeable items. One copy of the daily drill log will be provided to the client's representative.
9. To carry, at all times while conducting operations hereunder, the following insurance:
  - a. Workmen's Compensation Insurance to comply with applicable Federal and State Compensation laws.
  - b. General Public Liability Insurance with bodily injury of \$ 250,000.00 for any one person, \$ 500,000.00 for any one accident and property damage limit of \$ 50,000.00 for any one accident.
10. To operate the contractor's equipment on a single shift basis <sup>on a 2 shift 15 day schedule</sup> up to ~~10~~ <sup>12</sup> hours per day, ~~5 days per week~~. Actual field work time would be dependent upon time consumed in daily travel to and from place of accommodation and the job site.
11. <sup>out</sup> To commence drilling operations within 10 days after the receipt of the award and to diligently continue the work until it is completed or until the assignment is terminated as hereinafter provided.
12. <sup>out.</sup> To render an invoice for services performed within five (5) days after the 15th and the end of the month or alternately within ten (10) days of the conclusion or termination of the assignment if such assignment is commenced and concluded within a calendar month.



---

C. CLIENT OBLIGATIONS:

- and environmental, and regulatory*
1. That prior to the commencement of drilling at the site named herein, the client shall have determined and marked the locations of the bore holes and shall have made provision for the right-of-way, access and suitable drill sites. The client shall procure all entry permits and hold harmless the contractor for claims of trespass or damage to private property required in carrying out the work contemplated by the client hereunder, except where contractor is negligent or has 1) violated the client's specific written instructions. The client will provide towing assistance (as may be required); *2) Road Construction; and 3.) Site preparation*
  2. The client shall be responsible for all underground utilities, the plugging of bore holes and the refurbishing of the ground surface as may be required. *or revegetation or contouring* *and/or cement*
  3. That should it direct, in writing, the contractor to furnish supplies, materials, personnel and equipment other than those items specifically furnished by contractor in Schedules "A" & "B" of this quotation, the client will reimburse contractor for those items as detailed in Schedule "C" attached.
  4. Client agrees to pay contractor for the mobilization and demobilization of personnel and equipment, for services provided and for materials supplied at the rates as detailed in Schedule "C" herein within ~~15~~<sup>5</sup> days after the receipt of the contractor's invoice.
  5. *After ANALYSIS the* The client shall be responsible for the handling, transporting and safekeeping of the geological samples and will provide all sample bags and/or containers for the storage of the samples.



D. OTHER SPECIAL CONSIDERATIONS:

1. Contractor's invoices for services provided are net, due and payable upon receipt. Invoices unpaid thirty (30) days after date of invoice will be subject to a delinquency charge of 1 percent per month (12 percent per annum).
2. All the information and data obtained by reason of, or in connection with, the work shall be the exclusive property of the client. The contractor will keep all such information and data strictly confidential and will not divulge or use, or permit its employees to divulge or use any information or data so obtained.
3. ~~All sums of money shall be in terms of "dollars" lawful funds of the United States.~~
4. ~~All risk and damage to contractor's tools, machinery, appliances or equipment shall be at all times borne and assumed by the contractor unless client expressly agrees to reimburse contractor for such loss or damage.~~
5. ~~It is specifically understood that the contractor is not the agent of the client and is not authorized to act for or on behalf of the client or to bind the client in any manner whatsoever, and that this agreement shall never be construed as creating a joint venture or other relationship whereby either party hereto shall be held for the acts either of omission or commission of the other party hereunder.~~
6. ~~That neither party to this agreement shall be liable for any loss or damage caused by reason of strikes, accidents, acts of God, action of the elements, or of any other causes beyond its control.~~
7. ~~That this assignment is based upon contractor performing this assignment under a non-union operation. Should local unions require contractor or its employees to join their local union against contractor's will, this agreement shall terminate and shall be open for renegotiation.~~
8. ~~This agreement shall continue in force until the drilling assignment is completed or until cancelled by either party hereto, such cancellation to be effected by giving written notice (by mail, or telegram) to the other party at the addresses given herein not less than 3 calendar days prior to date of termination: PROVIDED HOWEVER, upon the breach of any substantial provision of this agreement, the party not guilty of such breach, may if it elects, cancel this agreement without the written notice provided for above. In the event of termination under this provision, the client shall compensate contractor in accordance with the schedule of compensation as detailed in Schedule "C" herein.~~
9. ~~This agreement will be governed by and construed in accordance with the laws of the State of Arizona.~~
10. ~~This quotation is valid for acceptance through November 21, 1977. After Nov. 21, 1977 the honoring of this quotation will be subject to availability of equipment and will, therefore, be subject to the contractor's review.~~

*For reference purposes only. Please refer to Section 14 of Expiration Agreement, previous.*

~~DRILLING SERVICES INC.~~  
 JABA, Services, Inc  
*O. Manchak*  
 O. Manchak  
 General Manager

QUOTATION ACCEPTED THIS  
 \_\_\_\_\_ DAY OF \_\_\_\_\_  
 BY \_\_\_\_\_  
 PLAN SELECTED \_\_\_\_\_

*Contractor shall have full power and authority to select the means, manner, and method of performing the work without control or direction by the client. Contractor will receive directions from client as to the end results to be accomplished and Contractor shall be responsible for directing its employees as to the manner and means of accomplishing the work to be performed hereunder by Contractor pursuant to good and workmanlike practices.*



SCHEDULE "A"  
Schedule of Equipment To Be Supplied Drilling

ITEM	QTY.	
1.	1	1975 Portadrill Model 10TLT drill unit mounted on a diesel powered carrier. The drill unit is equipped with LeRoi air compressors delivering 715 CFM @ 250 PSI, <u>(reverse circulation system for drilling with dual tube drill pipe and hydraulically controlled water injection system.</u>
		<del>DRILL TENDER</del>
2.	800 <del>400</del> 500	Feet of <del>4 1/2"</del> O.D. x <del>2 1/4"</del> I.D. dual tube drill pipe.
3.	1	Pickup truck.
4.	1	Cyclone assembly c/w discharge hose <del>and sample collecting tubs.</del>
5.		Drill bit subs and adapters for tricone and/or down the hole hammer drilling <del>up to a hole diameter of 5 1/2"</del> .
6.	1	<del>Mission A4315 Hammer Drill.</del>
7.	1	Interchange sub <sup>for Hammer Drill</sup> <del>for use with the Mission Hammer Drill and dual wall drill pipe.</del>
8.	1	Combination pipe, water and service unit.
9.	1	<del>Three tiered Jones type splitter.</del>

SCHEDULE "B"  
Schedule of Personnel To Be Furnished

- (1) Driller
- (1) Driller's Assistant
- (1) Jr Geologist
- (1) Field Technician

Contractor shall choose, hire, discharge, pay and be solely responsible for all workers utilized in the drilling of the holes herein.



SCHEDULE "C"  
Compensation Schedule

1. Mobilization and Demobilization:

For the supplying of equipment and the furnishing of personnel as per schedules "A" and "B" at the lump sum price of \$1,250.00.

2. Drilling Services:

Job site services which will include rigging up and down, setting and pulling the ~~blowout preventer and/or~~ surface casing, drilling, moving between bore holes will be provided at a hourly rate. For all such hours consumed at the job site, commencing and ending with the shift in the field, client will be invoiced at ~~\$145.00~~ per hour.

\$311.00 ?

3. Breakdown and Servicing Equipment Time:

No charges for down time would apply for the time consumed servicing and/or repairing contractor supplied equipment.

4. Compensation For Lost Pipe, Drill Tools, Extracting Stuck or Broken Drill Pipe, Drill Tools, Etc:

No compensation will be due the contractor for drill pipe and drill tools lost and or abandoned during the course of this drilling assignment. However, the hours consumed in the recovery and/or attempted recovery of drill pipe and drill tools, on any one bore hole, would be chargeable at an hourly rate of \$125.00. The maximum hours chargeable on any one bore hole would be limited to 8 hours.

5. Daily Travel Time:

12

Daily travel from the nearest source of accommodation to the job site and return is included in all of the plans in Schedule "C". However, should driving time exceed one hour per day by circumstances beyond the control of the contractor such excess time would be chargeable at the rate of ~~\$35.00~~ per hour.

\$75.00

6. Standby Time:

Hours consumed on a standby basis, at the convenience and/or request of the client, will be chargeable at the following rates:

- a. With full crew @ \$125.00 per hour
- b. Without full crew @ \$85.00 per hour (provided the drilling supervisor and/or crew driller is notified at least 8 hours in advance that standby is required.)

All standby charges, per shift, will be limited to a maximum of 12 ~~8~~ hours per day and ~~40~~ hours per week.  
30 day / month

7. Providing Drill Bits, Additional Supplies, Equipment, Personnel, Etc: Subcontract work, Etc.

The contractor will, at the request of the client, provide drill bits, <sup>water</sup> cement, <sup>drilling</sup> supplies, <sup>chemical</sup> equipment etc. and engage sub contractors and provide such additional services as may be required at contractor's invoice cost plus 15% handling.

*additional*

*drill rods*

*such as regulatory compliance*



PRO-FORMA COST SUMMARY

1. ESTIMATE OF WORK:

2 holes for an estimated total footage of 650 feet.

2. PRODUCTIVITY AND TOTAL TIME REQUIREMENT:

	HOURS CONSUMED		
	CONTRACTOR	CLIENT	TOTAL TIME
a. Daily travel to and from job. (x4)	0.25 x 4 = 1		3
b. Set blowout preventer/surface casing.	?	1?	1?
c. Drill and sample @ <sup>25</sup> 27 feet per hour.		24?	24
d. Move between bore holes	?	1	1
e. Repair & service equipment	3	?	3
	6??	26	32??

Total time requirement. 000? 32 Hours

Total work days @ <sup>12</sup>10 hours per day. 000? 3.2 Days

Total weeks required at <sup>7</sup>5 days per week. 000? .64 Weeks

Average feet drilled per hour based on total time (650 feet ÷ 32 hours). 000? 20.31 Ft/Hr

Average feet drilled per hour based on chargeable client hours (650 feet ÷ 26 hours). 000? 25.0 Ft/Hr

3. ESTIMATE OF COSTS:

	PLAN "A"		PLAN "B"		PLAN "C"	
	HOURLY RATE ONLY	HOURLY PLUS FOOTAGE	HOURLY RATE ONLY	HOURLY PLUS FOOTAGE	HOURLY RATE ONLY	HOURLY PLUS FOOTAGE
a. Mob. & Demob.						
Lump Sum	\$ 1,250.00	\$ 1.92				
b. PLAN "A"						
25 hours @ \$145.00 per hour	3,625.00	5.57				
c. PLAN "B"			Not Offered			
hours @ per hour						
Plus per ft.						
d. PLAN "C"					Not Offered	
feet @ per ft.						
Sub Total Costs	\$ 4,875.00	\$ 7.49				
Est. Bit Costs	195.00	30				
TOTAL EST. COSTS	\$ 5,070.00	\$ 7.79				

Handwritten notes: 0000?, 000?, 0000?, 000?, 0000?, 000?, 0000?, 000?

PAGE 2 of 2



STOCK NO. PART NO. & DESCRIPTION LIST PRICE

7201032	16610S	TOP SUB	.00
7101026	16610SA	TOP SUB ASSY	639.00
7201057	16611	TOP SUB	539.00
717201081	16611S	TOP SUB	.00
717101075	16611SA	TOP SUB ASSY	639.00
717201107	16612	TOP SUB	539.00
717201131	16612S	TOP SUB	.00
717101125	16612SA	TOP SUB ASSY	639.00
7201156	16613	TOP SUB	539.00
717201180	16613S	TOP SUB	.00
717101174	16613SA	TOP SUB ASSY	639.00
717201206	16614	TOP SUB	539.00
717201230	16614S	TOP SUB	.00
717101224	16614SA	TOP SUB ASSY	639.00
705490001	16615	PN RET RC	2.35
715402509	16616	VAL. PROTR	.00
705490100	16617	PN RET RC	2.35
770165959	16618-74A	D C BIT	1169.00
770170009	16618-8 A	XDC BIT	1343.00
717210702	16619	TOP SUB	539.00
717210736	16619S	TOP SUB	.00
717110720	16619SA	TOP SUB ASSY	639.00
717210801	16620	TOP SUB	539.00
717210835	16620S	TOP SUB	.00
717110829	16620SA	TOP SUB ASSY	639.00
717211403	16626	TOP SUB	539.00
7155005	16629-115A	BIT RING	.00
7120010	17049-62A	X-DC-MEGABIT	.00
780120200	17049-64A	X-DC-MEGABIT	.00
770166759	17052-5 A	X BIT	645.00
770166809	17052-52A	X BIT	661.00
770166858	17052-54A	X BIT	700.00
775158009	17055-115A	ANVIL BIT	2256.00
775158108	17055-117A	ANVIL BIT	2256.00
775158207	17055-122A	ANVIL BIT	2256.00
775158306	17055-124A	ANVIL BIT	2256.00
775158405	17055-136A	ANVIL BIT	2529.00
775158504	17055-140A	ANVIL BIT	2529.00
775158702	17055-152A	ANVIL BIT	.00
770171304	17056-6A	D C BIT	812.00
770171403	17056-61A	D C BIT	830.00
770171437	17056-61AJ	D C BIT	.00
770171502	17056-62A	D C BIT	855.00
770171536	17056-62AJ	D C BIT	.00
770171601	17056-64A	D C BIT	887.00
770171643	17056-64AJ	D C BIT	.00
770171700	17056-65A	D C BIT	950.00
770171817	17056-66A	D C BIT	959.00
770171866	17056-66AJ	D C BIT	1055.00
745400903	17058	GRINDER	.00
785103578	17250-5 A 5"	BUTTN BIT	453.00
785103607	17250-51A 5 1/8"	BUTTN BIT	465.00
785103706	17250-52A 5 1/4"	BUTTN BIT	478.00
785103904	17250-54A 5 1/2"	BUTTN BIT	496.00
785103920	A 17250-54A 5 1/2"	BUTTN BIT	496.00
785103953	17250-56A 5 3/4"	BUTTN BIT	512.00
720201805	17251	DRIVER SB	510.00

ORIGINAL CLIENT'S INVOICE

TOTAL THIS INVOICE \$ 6,823 74

12/13/77 OK T.W.J. - checkins on CASING O. Mancheck will call 01/5/78

DRILLING OPERATIONS SUMMARY

SUPPLEMENT TO BILLING INVOICE NO. 404

CLIENT: S.W. Exploration LOCATION OF WORK: Patagonia, AZ area PERIOD OF WORK: 11/29 - 12/5 1977. PROJECT NAME: \_\_\_\_\_ DSI JOB NO. 044  
 PERSONNEL EMPLOYED: DRILLER (S) D. Prefling SUPERVISOR: W.C. Mehlhorn TOTAL OTHER PERSONNEL EMPLOYED: 2 TOTAL JOB SITE EMPLOYMENT: \_\_\_\_\_ Phase II  
 EQUIPMENT EMPLOYED: DRILL(S) Unit No. 404 SERVICE UNIT (S) Unit No. 204 PICK UP (S) Unit No. 202, 105 OTHER \_\_\_\_\_

DATE	EXPLANATION OF ACTIVITY	HOLE NO.	DISTRIBUTION OF HOURS CONSUMED ON THE JOB										MTNCE	TOTAL JOB HRS	CUMUL. FOOTAGE	CONSUMABLE SUPPLIES	
			DAY SHIFT					NIGHT SHIFT									
			TRAVEL CHGE N/C	DRILLING CHGE N/C	FOOTAGE CHGE N/C	STANDBY CHGE N/C	OTHER CHGE N/C	DRILLING CHGE N/C	FOOTAGE CHGE N/C	STANDBY CHGE N/C	OTHER CHGE N/C						
11/29	Mobilization		6														
30	Drilling	9,12	1/2	10		195											
12/1	"	12	1	10 1/2		245							1				
2	"	12	1/2	7		160							3				
5	Drilling, demob.		1 1/2	6 1/2		40											26' Casing
6	Demobilization		8														1 x 5 1/8" Hammer bit @ 75% of new cost
TOTALS			17 1/2	34		640							4	57	640		

**PRODUCTIVITY**

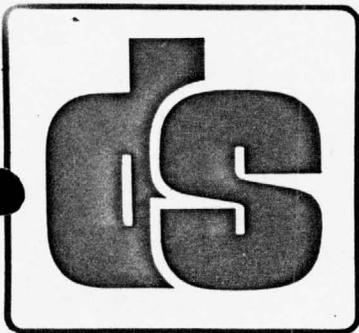
	DAY SHIFT	NIGHT SHIFT	THIS PERIOD	TO-DATE
JOB HOURS.				57
DRILL HOURS.				34
FOOTAGE.				640
FT. DRILL PER JOB HR.				11.2
FT. DRILL PER DRILL HR.				18.8

**JOB COSTS**

	THIS PERIOD	TO-DATE COSTS	COST/FT.
TOTAL MOB. & DEMOB. COSTS .	\$	\$ 1,250.00	\$ 1.95
TOTAL DRILLING COSTS.		4,930.00	7.70
TOTAL MATERIAL COSTS.		218.01	.34
TOTAL DRILL BIT COSTS.		425.73	.66
OTHER COSTS -			
<b>TOTAL COSTS</b>	<b>\$</b>	<b>\$ 6,823.74</b>	<b>\$ 10.65</b>

REMARKS: \_\_\_\_\_





**drilling services inc.**

1521 South Indian Bend Road  
TEMPE, ARIZONA 85281  
(602) 968-2414

C Southwestern Exploration Associates  
L 6783 Camino Principal  
I Tucson, Arizona 85715  
E  
N  
T Attention: Mr. Tom Waldrip

REVERSE CIRCULATION ROTARY DRILLING SERVICES

<b>CLIENTS AUTHORIZATION</b>	DSI JOB NO: <u>049</u> DATE: <u>December 8</u> 197 <u>7</u> INVOICE NO: <u>404</u>
	PERIOD OF ACTIVITY: <u>11/29</u> through <u>12/6</u> LOCATION: <u>Patagonia, AZ area</u>
	TERMS: _____ NET 30 DAYS.
	Invoices unpaid 30 days after date of invoice will be assessed a carrying charge of 1% per month (equals 12% per annum).

**SUMMARY OF ACTIVITY AND CHARGES**

		TOTALS	
1. MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT:	Lump sum	\$ 1,250	00 ✓
2. DAILY CREW TRAVEL TO AND FROM JOB SITE:			
3. CREW STANDBY:			
4. SERVICES PROVIDED AND/OR MATERIALS FURNISHED:			
a. <u>Job site drilling services:</u> (as per attached summary)			
34 hours @ \$145.00 per hour		4,930	00 ✓
b. <u>Drill bit and casing furnished:</u>			
26' Casing @ \$7.00 per ft.	\$182.00 ✓		
1 x 5 1/8 hammer bit @ 75% of \$465.00	348.75 ✓		
Freight on bit	7.50 ✓		
Sales tax @ 4%	21.53 ✓		
Sub Total	\$559.78 ✓		
Plus 15% Handling	83.96 ✓		
		643	74
ORIGINAL CLIENT'S INVOICE	TOTAL THIS INVOICE	\$ 6,823	74 ✓

*12/13/77 OK TEWjr - Checkings on CASING O. Mancheck will call 01/5/78*

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

1231 East Fry Blvd.  
Sierra Vista, AZ 85635

RECEIVED JUL 5 1978

June 30, 1978



Mr. Thomas E. Waldrip  
Assistant Geologist  
Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Dear Mr. Waldrip:

Your exploration work in Corral and Goldbaum Canyons has been completed with the exception of seeding the disturbed areas. This should be accomplished as soon as possible so that the seed can take advantage of the first rains.

The roadways and drill pads need to be seeded with one pound weeping love grass and  $\frac{1}{2}$  pound yellow blossom sweet clover per acre.

Please let me know when you have accomplished the seeding.

Sincerely,

  
KENNETH D. BISHOP  
District Ranger

0328



drilling services inc.

1521 South Indian Bend Road  
TEMPE, ARIZONA 85281  
(602) 968-2414

C  
L  
I Southwestern Exploration Associates  
E 4500 E. Speedway  
N Suite 14  
T Tucson, Arizona 85716

Attn: Mr. Tom Waldrip

REVERSE CIRCULATION ROTARY DRILLING SERVICES

P-134

CLIENTS AUTHORIZATION	DSI JOB NO: <u>044</u> DATE: <u>January 4</u> 197 <u>8</u> INVOICE NO: <u>CR414</u>
	Purchase Order No. _____/or PERIOD OF ACTIVITY: _____ LOCATION: <u>Patagonia, AZ area</u>
Offer of drilling services No. 801 dated 11/8/77	TERMS: _____ NET 30 DAYS. Invoices unpaid 30 days after date of invoice will be assessed a carrying charge of 1% per month (equals 12% per annum).

SUMMARY OF ACTIVITY AND CHARGES

1. MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT:
2. DAILY CREW TRAVEL TO AND FROM JOB SITE:
3. CREW STANDBY:
4. SERVICES PROVIDED AND/OR MATERIALS FURNISHED:

a. Overcharge on casing provided:

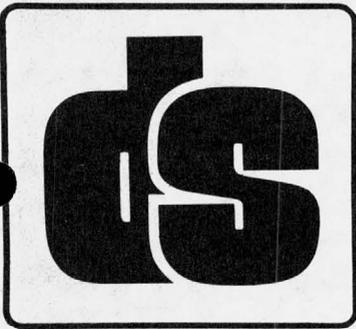
Charged 26' @ \$7.00 per ft.	\$182.00
Should have charged 26' @ \$5.00 per ft.	130.00
Sub Total	\$ 52.00
Sales Tax	2.08
Sub Total	\$ 54.08
15% Handling	8.11

TOTALS	
\$	
\$	62 19
DUPLICATE CLIENT'S INVOICE	
TOTAL THIS INVOICE \$ 62 19	

CREDIT APPROVED  
JAN 16 1978

Ok Tom 1/11/78

Credited to TGE - Feb. in Jan. billing.



**drilling services inc.**

1521 South Indian Bend Road  
 TEMPE, ARIZONA 85281  
 (602) 968-2414

C  
L  
I  
E  
N  
T

*P-134 loc. drilling files*  
 Southwestern Exploration Associates  
 6783 Camino Principal  
 Tucson, Arizona 85715  
**Attention: Mr. Tom Waldrip**

REVERSE CIRCULATION ROTARY DRILLING SERVICES

*P-134*

<b>CLIENTS AUTHORIZATION</b>  Purchase Order No. _____ /or <b>Offer of drilling services</b> No. 801 dated 11/8/77	DSI JOB NO: <u>049</u> DATE: <u>December 8</u> 197 <u>7</u> INVOICE NO: <u>404</u>
	PERIOD OF ACTIVITY: <u>11/29 through 12/6</u> LOCATION: <u>Patagonia, AZ area</u>
TERMS: _____ NET 30 DAYS. Invoices unpaid 30 days after date of invoice will be assessed a carrying charge of 1% per month (equals 12% per annum).	

**SUMMARY OF ACTIVITY AND CHARGES**

		TOTALS	
		\$	
1.	MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT: <b>Lump sum</b>		<b>1,250 00</b>
2.	DAILY CREW TRAVEL TO AND FROM JOB SITE:		
3.	CREW STANDBY:		
4.	SERVICES PROVIDED AND/OR MATERIALS FURNISHED:		
	<b>a. <u>Job site drilling services: (as per attached summary)</u></b>		
	34 hours @ \$145.00 per hour		<b>4,930 00</b>
	<b>b. <u>Drill bit and casing furnished:</u></b>		
	26' Casing @ \$7.00 per ft.      \$182.00		
	1 x 5 1/8 hammer bit @ 75% of \$465.00      348.75		
	Freight on bit      7.50		
	Sales tax @ 4%      21.53		
	<b>Sub Total</b> <b>\$559.78</b>		
	<b>Plus 15% Handling</b> <b>83.96</b>		<b>643 74</b>

*DSI credit's our account on 1/5/78 for over charge on casing of \$62.19 TEN 1/11/79*

DUPLICATE CLIENT'S INVOICE      **TOTAL THIS INVOICE \$ 6,823 74**

*Credit memo sent for \$62.19*

*6823.74  
 -1062.19  
 5761.55 2/14*

**APPROVED**  
 DEC 23 1977  
*THB*

*\$1,000 pd 12/30/77  
 ck #4291  
 5761.55 pd 3/11/78  
 ck #4463*

*OK 12/13/77 TEW Jr.  
 O. MANCHECK WILL CALL 1/05/77 ON CASING*

DRILLING OPERATIONS SUMMARY

SUPPLEMENT TO BILLING INVOICE NO. 404

CLIENT: S.W. Exploration LOCATION OF WORK: Patagonia, AZ area PERIOD OF WORK: 11/29 - 12/5 1977. PROJECT NAME: \_\_\_\_\_ DSI JOB NO. 044  
 PERSONNEL EMPLOYED: DRILLER (S) D. Prefling SUPERVISOR: W.G. Mehlhorn TOTAL OTHER PERSONNEL EMPLOYED: 2 TOTAL JOB SITE EMPLOYMENT 3 Phase II  
 EQUIPMENT EMPLOYED: DRILL(S) Unit No. 404 SERVICE UNIT (S) Unit No. 204 PICK UP (S) Unit No. 202, 105 OTHER \_\_\_\_\_

DATE	EXPLANATION OF ACTIVITY	HOLE NO.	DISTRIBUTION OF HOURS CONSUMED ON THE JOB								MTNCE	TOTAL JOB HRS	CUMUL. FOOTAGE	CONSUMABLE SUPPLIES	
			DAY SHIFT				NIGHT SHIFT								
			TRAVEL CHGE	N/C	DRILLING CHGE	FOOTAGE N/C	STANDBY CHGE	OTHER N/C	DRILLING CHGE	FOOTAGE N/C					STANDBY CHGE
11/29	Mobilization		6									6			
30	Drilling	9,12	1/2	10	195							10 1/2	195		
12/1	"	12	1	10 1/2	245							1	12 1/2	440	
2	"	12	1/2	7	160							3	10 1/2	600	
5	Drilling, demob.		1 1/2	6 1/2	40								9 1/2	640	26' Casing
6	Demobilization		8										8	640	1 x 5 1/8" Hammer bit @ 75% of new cost
TOTALS			17 1/2	34	640							4	57	640	

PRODUCTIVITY

JOB HOURS. DEC 23  
 DRILL HOURS.  
 FOOTAGE.  
 FT. DRILL PER JOB HR.  
 FT. DRILL PER DRILL HR.

DAY SHIFT	NIGHT SHIFT	THIS PERIOD	TO-DATE
_____	_____	_____	57
_____	_____	_____	34
_____	_____	_____	640
_____	_____	_____	11.2
_____	_____	_____	18.8

TOTAL MOB. & DEMOB. COSTS .  
 TOTAL DRILLING COSTS.  
 TOTAL MATERIAL COSTS.  
 TOTAL DRILL BIT COSTS.  
 OTHER COSTS -

JOB COSTS		
THIS PERIOD	TO-DATE COSTS	COST/FT.
\$ _____	\$ 1,250.00	\$ 1.95
_____	4,930.00	7.70
_____	218.01	.34
_____	425.73	.66
<hr/>		
TOTAL COSTS	\$ 6,823.74	\$ 10.65

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Rec'd  
12/10/77

December 8, 1977

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Attention: Mr. Tom Waldrip

Dear Tom:

We enclose herewith our invoice for drilling services Patagonia, Arizona area. Attached to the invoice is the drilling operations summary along with the supporting invoice for the drill bit charge.

Best regards to you and Jim.

Yours very truly,



O. Manchak  
General Manager

OM/jf

Enclosures



RECEIVED JAN 6 1978

File in P-134  
Location Drilling  
File & WHATEVER  
Files ARE NECESSARY

TOW  
1/11/78

January 5, 1978

Southwestern Exploration Associates  
4500 E. Speedway  
Suite 14  
Tucson, Arizona 85716

Attention: Mr. Tom Waldrip

Dear Tom:

We enclose herewith our credit invoice relative to the overcharge on casing provided for the Patagonia job. Therein, the reason for the \$7./ft. charge versus the \$5./ft. charge previously, is that the casing provided currently was of a higher quality. However, as you were not aware of this and you were advised that it would be approximately at the same price as before, we are crediting Southwestern with the difference which amounts to \$62.19.

Thank you for bringing this to our attention.

Best regards.

Yours very truly,



O. Manchak  
General Manager

OM/jf

Enclosure

APPROVED  
JAN 11 1978

I already know about  
this OK TOW  
1/11/78





drilling services inc.

1521 South Indian Bend Road
TEMPE, ARIZONA 85281
(602) 968-2414

CLIENT: Southwestern Exploration Associates
4500 E. Speedway
Suite 14
Tucson, Arizona 85716

Attn: Mr. Tom Waldrip

REVERSE CIRCULATION ROTARY DRILLING SERVICES

Table with 2 columns: CLIENTS AUTHORIZATION and Job/Invoice details. Includes fields for DSI JOB NO, DATE, INVOICE NO, PERIOD OF ACTIVITY, LOCATION, and TERMS.

SUMMARY OF ACTIVITY AND CHARGES

- 1. MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT:
2. DAILY CREW TRAVEL TO AND FROM JOB SITE:
3. CREW STANDBY:
4. SERVICES PROVIDED AND/OR MATERIALS FURNISHED:

a. Overcharge on casing provided:

Table showing overcharge calculation: Charged 26' @ \$7.00 per ft. (\$182.00), Should have charged 26' @ \$5.00 per ft. (130.00), Sub Total (\$ 52.00), Sales Tax (2.08), Sub Total (\$ 54.08), 15% Handling (8.11).

TOTALS table with columns for dollar amounts and numerical values. Shows a total of \$ 62 19.

CREDIT

Handwritten signature: Ok Tom 1/11/78

APPROVED stamp: JAN 11 1978

Summary row: ORIGINAL CLIENT'S INVOICE TOTAL THIS INVOICE \$ 62 19

DRILLING SERVICES INC.  
1521 SOUTH INDIAN BEND ROAD  
SUITE 3  
TEMPE, ARIZONA 85281  
PHONE (602) 968-2414

OFFER OF DRILLING SERVICES

TO: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

DATE: November 8, 1977

(Hereinafter referred to as client)

QUOTATION NO. 801

FOR THE  
ATTENTION OF: Mr. Tom Waldrip

DRILLING SERVICES TO BE PERFORMED BY:  
Drilling Services Inc.  
(Hereinafter referred to as contractor)

A. GENERAL INFORMATION:

The contractor will undertake the work herein on a contract basis subject always to the terms, conditions, provisions and information contained herein:

1. Location of Work:

In the vicinity of Patagonia, Arizona.

2. Formation:

Gila type formation (soft & weathered) with hardrock below.

3. Proposed Method of Drilling and Sampling:

The reverse circulation rotary method (RCR) will be employed using double wall drill pipe, full bore tricone and/or insert bits and reverse circulation air/water flow to drill and sample the formation. A continuous sample of the geologic formation will be recovered up through the center of the double wall drill pipe and the sample will be discharged at the surface via a cyclone directly into a contractor supplied sample splitter. Water will be injected into the air flow on a continuous and/or intermittent basis to assist in the recovery of the sample. Should it be necessary and/or desirable to drill the hard formations with a down the hole hammer drill, the double wall drill pipe, interchange sub and down the hole hammer drill configuration would be utilized.

4. Hole Size, Angle and Maximum Depth:

Holes shall be a minimum diameter of 4 7/8" drilled vertically to a maximum depth of 800 feet.

5. Scope of Work and Drilling Requirements:

It is estimated that this drilling program would be for a total of 2 holes for an approximate total footage of 650 feet.

After setting of the blowout preventer and/or surface casing, drilling would proceed to provide sample from each 5 foot interval.



B. THE CONTRACTOR PROMISES AND AGREES:

1. To furnish equipment as per Schedule "A" attached.
2. To furnish personnel as per Schedule "B" attached.
3. To provide a board and room allowance for contractor furnished personnel.
4. To provide parts, supplies, materials, fuels and lubricants pertinent to the efficient performance of this undertaking, excepting casing, cement, rotary, diamond and down the hole hammer bits.
5. To procure, at the request of client's representative, such additional supplies, materials, personnel and equipment as may be necessary for the efficient operation and completion of the drilling assignment. Compensation for the procurement of such additional supplies, materials, personnel and equipment shall be at the rates set forth in Schdeule "C" attached.
6. To leave the drill site free of all debris resulting from the work performed by the contractor (excepting drill cuttings).
7. To conduct all operations hereunder in full compliance of all rules and regulations adopted by any government agency whether Federal, State, City or Municipal.
8. To prepare a daily drill log summarizing in detail the days activities including consumable and chargeable items. One copy of the daily drill log will be provided to the client's representative.
9. To carry, at all times while conducting operations hereunder, the following insurance:
  - a. Workmen's Compensation Insurance to comply with applicable Federal and State Compensation laws.
  - b. General Public Liability Insurance with bodily injury of \$ 250,000.00 for any one person, \$ 500,000.00 for any one accident and property damage limit of \$ 50,000.00 for any one accident.
10. To operate the contractor's equipment on a single shift basis up to 10 hours per day, 5 days per week. Actual field work time would be dependent upon time consumed in daily travel to and from place of accommodation and the job site.
11. To commence drilling operations within 10 days after the receipt of the award and to diligently continue the work until it is completed or until the assignment is terminated as hereinafter provided.
12. To render an invoice for services performed within five (5) days after the 15th and the end of the month or alternately within ten (10) days of the conclusion or termination of the assignment if such assignment is commenced and concluded within a calendar month.



C. CLIENT OBLIGATIONS:

1. That prior to the commencement of drilling at the site named herein, the client shall have determined and marked the locations of the bore holes and shall have made provision for the right-of-way, access and suitable drill sites. The client shall procure all entry permits and hold harmless the contractor for claims of trespass or damage to private property required in carrying out the work contemplated by the client hereunder, except where contractor is negligent or has violated the client's specific written instructions. The client will provide towing assistance as may be required.
2. The client shall be responsible for all underground utilities, the plugging of bore holes and the refurbishing of the ground surface as may be required.
3. That should it direct, in writing, the contractor to furnish supplies, materials, personnel and equipment other than those items specifically furnished by contractor in Schedules "A" & "B" of this quotation, the client will reimburse contractor for those items as detailed in Schedule "C" attached.
4. Client agrees to pay contractor for the mobilization and demobilization of personnel and equipment, for services provided and for materials supplied at the rates as detailed in Schedule "C" herein within 15 days after the receipt of the contractor's invoice.
5. The client shall be responsible for the handling, transporting and safekeeping of the geological samples and will provide all sample bags and/or containers for the storage of the samples.



D. OTHER SPECIAL CONSIDERATIONS:

1. Contractor's invoices for services provided are net, due and payable upon receipt. Invoices unpaid thirty (30) days after date of invoice will be subject to a delinquency charge of 1 percent per month (12 percent per annum).
2. All the information and data obtained by reason of, or in connection with, the work shall be the exclusive property of the client. The contractor will keep all such information and data strictly confidential and will not divulge or use, or permit its employees to divulge or use any information or data so obtained.
3. All risk and damage to contractor's tools, machinery, appliances or equipment shall be at all times borne and assumed by the contractor unless client expressly agrees to reimburse contractor for such loss or damage.
4. It is specifically understood that the contractor is not the agent of the client and is not authorized to act for or on behalf of the client or to bind the client in any manner whatsoever, and that this agreement shall never be construed as creating a joint venture or other relationship whereby either party hereto shall be held for the acts either of omission or commission of the other party hereunder.
5. That neither party to this agreement shall be liable for any loss or damage caused by reason of strikes, accidents, acts of God, action of the elements, or of any other causes beyond its control.
6. That this assignment is based upon contractor performing this assignment under a non-union operation. Should local unions require contractor or its employees to join their local union against contractor's will, this agreement shall terminate and shall be open for renegotiation.
7. This agreement shall continue in force until the drilling assignment is completed or until cancelled by either party hereto, such cancellation to be effected by giving written notice (by mail, or telegram) to the other party at the addresses given herein not less than 3 calendar days prior to date of termination: PROVIDED HOWEVER, upon the breach of any substantial provision of this agreement, the party not guilty of such breach, may if it elects, cancel this agreement without the written notice provided for above. In the event of termination under this provision, the client shall compensate contractor in accordance with the schedule of compensation as detailed in Schedule "C" herein.
8. This agreement will be governed by and construed in accordance with the laws of the State of Arizona.
9. This quotation is valid for acceptance through November 21, 1977. After Nov. 21, 1977 the honoring of this quotation will be subject to availability of equipment and will, therefore, be subject to the contractor's review.

DRILLING SERVICES INC.

O. Manchak  
 O. Manchak  
 General Manager

QUOTATION ACCEPTED THIS

29 DAY OF NovemberBY Thomas E. Waldrop Jr.PLAN SELECTED A

SCHEDULE "A"  
Schedule of Equipment To Be Supplied

<u>ITEM</u>	<u>QTY.</u>	
1.	1	1975 Portadrill Model 10TLT drill unit mounted on a diesel powered carrier. The drill unit is equipped with LeRoi air compressors delivering 715 CFM @ 250 PSI, reverse circulation system for drilling with dual tube drill pipe and hydraulically controlled water injection system.
2.	800	Feet of 4½" O.D. x 2¼" I.D. dual tube drill pipe.
3.	1	Pickup truck.
4.	1	Cyclone assembly c/w discharge hose and sample collecting tubs.
5.		Drill bit subs and adapters for tricone and/or down the hole hammer drilling up to a hole diameter of 5¼".
6.	1	Mission A4315 Hammer Drill.
7.	1	Interchange sub for use with the Mission Hammer Drill and dual wall drill pipe.
8.	1	Combination pipe, water and service unit.
9.	1	Three tiered Jones type splitter.

SCHEDULE "B"  
Schedule of Personnel To Be Furnished

(1) Driller

(1) Driller's Assistant



SCHEDULE "C"  
Compensation Schedule

1. Mobilization and Demobilization:

For the supplying of equipment and the furnishing of personnel as per schedules "A" and "B" at the lump sum price of \$1,250.00.

2. Drilling Services:

Job site services which will include rigging up and down, setting and pulling the blowout preventer and/or surface casing, drilling, moving between bore holes will be provided at a hourly rate. For all such hours consumed at the job site, commencing and ending with the shift in the field, client will be invoiced at \$145.00 per hour.

3. Breakdown and Servicing Equipment Time:

No charges for down time would apply for the time consumed servicing and/or repairing contractor supplied equipment.

4. Compensation For Lost Pipe, Drill Tools, Extracting Stuck or Broken Drill Pipe, Drill Tools, Etc:

No compensation will be due the contractor for drill pipe and drill tools lost and or abandoned during the course of this drilling assignment. However, the hours consumed in the recovery and/or attempted recovery of drill pipe and drill tools, on any one bore hole, would be chargeable at an hourly rate of \$125.00. The maximum hours chargeable on any one bore hole would be limited to 8 hours.

5. Daily Travel Time:

Daily travel from the nearest source of accommodation to the job site and return is included in all of the plans in Schedule "C". However, should driving time exceed one hour per day by circumstances beyond the control of the contractor such excess time would be chargeable at the rate of \$35.00 per hour.

6. Standby Time:

Hours consumed on a standby basis, at the convenience and/or request of the client, will be chargeable at the following rates:

- a. With full crew @ \$125.00 per hour
- b. Without full crew @ \$85.00 per hour (provided the drilling supervisor and/or crew driller is notified at least 8 hours in advance that standby is required.)

All standby charges, per shift, will be limited to a maximum of 8 hours per day and 40 hours per week.

7. Providing Drill Bits, Additional Supplies, Equipment, Personnel, Etc:

The contractor will, at the request of the client, provide drill bits, cement, supplies, equipment etc. and engage sub contractors and provide such additional services as may be required at contractor's invoice cost plus 15% handling.



PRO-FORMA COST SUMMARY

1. ESTIMATE OF WORK:

2 holes for an estimated total footage of 650 feet.

2. PRODUCTIVITY AND TOTAL TIME REQUIREMENT:

	<u>HOURS CONSUMED</u>		
	<u>CONTRACTOR</u>	<u>CLIENT</u>	<u>TOTAL TIME</u>
a. Daily travel to and from job.	3		3
b. Set blowout preventer/surface casing.		1	1
c. Drill and sample @ 27 feet per hour.		24	24
d. Move between bore holes		1	1
e. Repair & service equipment	<u>3</u>		<u>3</u>
	6	26	32
Total time requirement.			32 Hours
Total work days @ 10 hours per day.			3.2 Days
Total weeks required at 5 days per week.			.64 Weeks
Average feet drilled per hour based on total time (650 feet ÷ 32 hours).			20.31 Ft/Hr
Average feet drilled per hour based on chargeable client hours (650 feet ÷ 26 hours).			25.0 Ft/Hr

3. ESTIMATE OF COSTS:

	<u>PLAN "A"</u>		<u>PLAN "B"</u>		<u>PLAN "C"</u>	
	<u>HOURLY RATE ONLY</u>	<u>TOTAL COST</u>	<u>HOURLY PLUS FOOTAGE</u>	<u>TOTAL COST</u>	<u>FOOTAGE RATE ONLY</u>	<u>TOTAL COST</u>
		<u>COST/FT</u>		<u>COST/FT</u>		<u>COST/FT</u>
a. <u>Mob. &amp; Demob.</u>						
Lump Sum	\$ 1,250.00	\$ 1.92	\$	\$	\$	\$
b. <u>PLAN "A"</u>						
25 hours @ \$145.00 per hour		3,625.00		5.57		
c. <u>PLAN "B"</u>			Not Offered			
hours @ per hour						
Plus per ft.						
d. <u>PLAN "C"</u>					Not Offered	
feet @ per ft.						
Sub Total Costs	<u>\$ 4,875.00</u>	<u>\$ 7.49</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>
Est. Bit Costs	<u>195.00</u>	<u>.30</u>				
TOTAL EST. COSTS	<u>\$ 5,070.00</u>	<u>\$ 7.79</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>













MEMO

To: James A. Briscoe

From: Thomas E. Waldrip, Jr.

Date: October 28, 1977

Re: One day field trip to Harshaw, Arizona to go over proposed drill road access routes into the H.A.R. claim group, P-134, Harshaw Mining District, Santa Cruz County, Arizona

This field trip was in response to a telephone request of Doug Salyer on October 20, 1977. Doug, the recreational and land (use) management head, and Dennis Johnson, a recreational and land use specialist from the Sierra Vista Ranger District, Coronado National Forest, met me at Patagonia on the morning of October 27, 1977. From Patagonia we proceeded to Harshaw to go over the proposed access routes to our drill hole locations #9 and 12. At this same time I gave Mr. Salyer our plan of operation and attached map. This plan of operation detailed our proposed road building and drilling on the H.A.R. claim block.

Once in the area we walked out the proposed route of access road A. Along the way we discussed methods which would be used in construction of the road. The following list of procedures will generally be adhered to during the road building process.

1. All tree branches will be cut to the union of another tree branch.
2. At all possible cost, no oak trees should be removed.
3. If blasting is necessary, it should be kept to the smallest area possible.
4. Water bars must be constructed either during the time of drill road building or immediately upon completion of drilling.
5. Care should be taken not to remove excess areas of grass, and work should be kept to the absolute minimum.
6. Manzanita brush found in the area may be removed by either chaining or running over the bushes with the cat tracks.
7. All manzanita brush and other refuse from the trimming operations should be scattered over the area to prevent fire danger.
8. Cat work should be performed only in areas where it is deemed absolutely necessary to widen the road or to level the road bed.
9. Seeding of love grass and clover should not be performed until next June or July. (This will be the next occurrence of natural rainfall in the area, and we are much more likely to get a better stand of grass.)

10. Any fence construction in the area should be well supported, and gates can be made in the fence where necessary.

11. Short sections of fence may be removed and moved to one side or the other in order to save on road construction and to stay on the ridge top. The posts that are put back in should be of the metal variety, but wood posts may also be used.

12. A drill pad may be constructed, but any work done should be of such a nature that any disturbed ground in the area can be restored to near its original condition.

13. Unless deemed absolutely necessary, no mud pit should be constructed. Tailings (rock cuttings) or any excess water found during drilling may be allowed to run into a small creek channel. Cuttings should be scattered over the area after drilling.

Several other points were brought out during our discussion, namely a representative of SEA will need to be on site during road construction along with Forest Service personnel. It was noted that all conversation between the Forest Service and the cat operator would go through SEA personnel on site. In addition, Doug said that if any conflicts or difficulties come up with Norman Hale, as far as access to our mining claims or use of roads on his ranch, that he (Doug) would be happy to intervene and to establish workable communication between our exploration firm and Mr. Hale. (Although this is not an accusation, I believe that Mr. Hale may have removed all flagging along our proposed drill road A and also moved a small wooden post with a flag attached from our proposed drill location.)

We should receive an O.K. back from the Forest Service for our plan of operation somewhere near the 15th of November. Prior to the time of acceptance of our plan of operation, a restoration bond will have to be in effect and in the hands of the Forest Service before they can grant us permission to construct the drill roads. Mr. Salyer also stated that from a Forest Service standpoint he would like us not to construct the drill roads into the area long in advance of planned drilling. I explained that it would be necessary for us to construct the roads as soon as possible in order that we may put the drill rigs on site when they become available.

Memo #0095  
mp

NOTICE OF INTENTION  
TO OPERATE  
OR  
BASIC OPERATING  
PLAN  
Ref. 36 CFR 252  
FSM 2850

a. National Forest Coronado	b. Ranger District Ken Bisbee	c. Drainage Patagonia Mtns.
d. State Arizona	e. County/Countries Santa Cruz	f. Mining District Patagonia-Harshaw
g. Type of Claim or Claims Lode <input checked="" type="checkbox"/> Placer <input type="checkbox"/> Mill Site <input type="checkbox"/> Tunnel Site <input type="checkbox"/>		h. Operation New <input checked="" type="checkbox"/> Continuing <input checked="" type="checkbox"/> Reactivating <input type="checkbox"/>
		FOREST SERVICE USE Forest Service File No. 2850 Date Rec'd _____

**NOTE:** (INSTRUCTIONS TO OPERATORS. Please complete in as much detail as possible. Use maps and sketches where appropriate. Additional sheets can be used if necessary. Completed information should be furnished to District Ranger's office.) To the extent authorized by law this information will be held confidential. As an agency of the Federal Government, the Forest Service is required to comply with the Freedom of Information Act.

**NOTICE OF INTENTION TO OPERATE.**

Notice is hereby given that the undersigned intends to conduct prospecting, mining, or milling operations, etc., on the claim(s) and/or unclaimed federal lands as indicated below.

NAME OF CLAIMS ON WHICH OPERATIONS WILL BE CONDUCTED	NAME OF OWNER AND ADDRESS	LOCATION			LOCATION Date
		Section	Township	Range	
HAR Claim Group	Texas Gas Exploration Corp. P.O.Box 52310, Houston, TX 77052 Felmont Oil Co., 1642 Capital Nat'l. Bank Bldg., 1300 Main St., Houston, TX 77002	3 & 11	23S Unsurveyed	16E	Aug. 10, 1977
UNCLAIMED LANDS ON WHICH OPERATIONS WILL BE CONDUCTED:					

**ACCESS** - Describe the type and standard of the proposed means of access and the means of transportation to be used (such as 4-wheel drive vehicle, tractor, pickup, etc.). Furnish a map showing the proposed route of access and relationship to claims or unclaimed lands noted above.

**NOTE:** Construction, reconstruction, or restoration of a road as a means of access across National Forest System lands or unpatented mining claims will be authorized separately by issuance of a special-use permit. (If an operating plan is required, it must be approved in writing by the authorized officer prior to the issuance of the special-use permit.)

Existing roads A', B' and C (see map) will provide access to proposed drill roads A and B. Construction of drill roads A and B are discussed under **PROPOSED OPERATIONS**. Standard 2 wheeled drive vehicles will be used to transport personnel to and from drill road construction areas. A "Crawler" Caterpillar (D6-B) will be used to construct proposed drill roads into the drill sites. The Cat will be transported to the area on a lowboy. During drilling operations a 6-wheeled flat bed truck, 2-wheel drive pick-up and a 6-wheeled 1½ ton truck will be used to transport equipment and personnel to the drill site. In addition, a 10-wheeled drill truck will be used.

**PROPOSED OPERATION** (Describe proposed surface disturbing activities, such as backhoe, trenching, drill road construction, tunnel site development, settling ponds, bulldozer exploration, etc.) Furnish a map showing location of proposed operations and relationship to claims or unclaimed lands noted above.

**NOTE:** Work roads within the claims will be covered by the Operating Plan.

Our proposed operations will be broken down into 3 stages:

Stage 1: Drill road construction, roads A and B.

Southwestern Exploration Associates (SEA) desires to construct 2 drill roads to gain access to drill hole sites numbered 9 and 12 on the attached map. These roads will both be approximately 3,500' long and an average of 11' wide. A D-6-B "Crawler" Caterpillar with a 9 foot dozer blade will be used to construct the roads. It is our plan at present to construct roads only along approximately the first 1,000' of each route and then follow ridge tops to the indicated drill hole locations. Minor road work may be necessary along both routes once the top of the ridges are attained, but this will be kept to removal of manzanita patches and minor ground leveling. In addition, along drill road A a 50' section of rock near the southeast corner of H.A.R. claim #71 will have to be leveled either by the Cat or by minor blasting. Low overhanging oak tree branches will be cut using a chain saw along the first 300' of drill road A.

Work during this stage will be performed by William Christy, Inc., 4320 N. Sullinger Avenue, Tucson, Arizona, phone (602) 887-9300.

CONTINUED

## PLAN OF OPERATIONS (Continued)

### Stage 2: Drill pad construction, drill hole #12

This operation will be done concurrently with road building operations in the area. Construction will include leveling an area approximately 50' square and constructing one or more mud pits. This work will also be performed by W. D. Christy, Inc. of Tucson.

### Stage 3: Location and exploration drilling

Two validation drill holes will be drilled to a minimum depth of 100' each. These holes are so labeled L.D.H. #9 and 12 on attached map. Location drill hole #9 is located in the SE $\frac{1}{4}$  of NE $\frac{1}{4}$  of Section 10, Township 23S, Range 16E, which is approximately the center of lode mining claim H.A.R. #63. Location drill hole #12 is located in the SE $\frac{1}{4}$  of SE $\frac{1}{4}$  of Section 3, Township 23S, Range 16E, which is located in the east center of lode mining claim H.A.R. #73. In addition, we plan to deepen L.D.H. #12 at the same time to a minimum depth of 300', with a maximum of 1,000' depending upon funds. Drilling will be performed by Drilling Services, Inc., 1521 South Indian Bend Road, Suite 3, Tempe, Arizona 85281, telephone (602) 968-2414, using a Porta-drill 2000 reverse circulation drill rig. Drilling will be done using air (dry), unless conditions deem otherwise, in which case water will be injected into the system.

### Period of Operations:

Operations will begin as soon as possible after receipt of final approval for this plan of operations. The total time of the Operations Permit will be for a period of six months. The immediate operations will require 30 days or less. We wish to request that the access roads we construct be left open for a period of one year, so that we may utilize them for deeper drilling to be conducted next year. Overall, we feel that the environmental damage will be minimized if the roads can be left open, since the same ground would have to be bulldozed again next year.

### On Site SEA Manager:

Mr. Thomas E. Waldrip, Jr., Assistant Geologist, will be on the sites during drilling operations in case there is a need for field contact with the SEA staff. Mr. James A. Briscoe, President of SEA, will be available in our Tucson office.

EVALUATION AND REPORT OF NOTICE (to be completed by Forest Service)

Forest  
Service  
File No. \_\_\_\_\_  
2850 \_\_\_\_\_  
Date Rec'd \_\_\_\_\_

1. Review of location and land status. (Assure that location described is proper and lands are/were open to mineral entry. Status check should identify withdrawals, special uses, and acquired lands, etc.)

2. Surface resource consideration. (Describe affect of proposed operation on surface resources both on and off claim(s), and additional reclamation measures required if any. Identify cultural or historic resources known to exist in area. If an operator uncovers objects which may be protected under the Antiquities Act or the National Historic Preservation Act, the operator will immediately notify the authorized officer and conduct operations in such a manner as to not injure or destroy objects until the authorized officer has made a determination.)

3. Operation plan decision. (Where modest prospecting and exploration activities are anticipated, this form may suffice as an operating plan.)

4. Bond requirement. (Bond requirement should be based on probable cost of reclamation of surface resources. Include sufficient information to support bond request.)  
Remarks:

\$ \_\_\_\_\_ Bond Required

5. Special-use permit. (Describe type and terms of special-use permits.)

Evaluated by:	Date:	Signature:	Title:
Approved by (Authorized Officer):	Date:	Signature:	Title:



MEMO

To: J. A. Briscoe

From: T. E. Waldrip, Jr.

Date: October 21, 1977

Re: One day field trip to Harshaw by J. A. Briscoe and myself, October 18, 1977, to lay in access routes for completion of location drilling of the 2 remaining unvalidated claim blocks of the H.A.R. group, Project 134.

On arriving in the Patagonia area, it was noted that severe flooding had occurred along most of the major creeks. This had been caused by a break up of a hurricane over southern Arizona a week and a half prior to this date. All major dirt roads south of Patagonia were again open, but most sideroads were passable only to 4-wheel drive vehicles. Damage had been quite extensive throughout the area, with streams cutting 4' to 5' channels in previous roadbeds.

By 11:00 a.m. we were flagging the route of the proposed access road into location drill hole #12, as delineated by capital A on the map. The beginning of this proposed road follows a former wagontrail to the top of a long series of north-south trending ridges at the western boundary of the H.A.R. claim group. Once on top of these ridges, access to location drill hole #12 would be made fairly easily with only minor obstructions being present.

At 1:00 p.m. we met with Mr. Dennis Johnson, a field ranger with the U. S. Forest Service. Shortly after starting he suggested that we stay to the ridge top, thus cutting down on the amount of bulldozer work in the area. We agreed to this idea in principle at the time, for we felt that the dozer could be used to clear out the manzanita patches in the area. It soon became apparent that the Forest Service would like to see the brush removed by hand. Jim and I both balked at the idea and tried to persuade Mr. Johnson that the bulldozer would be much more efficient, but to no avail. We would, it seems, have to remove the manzanita brush by hand labor, thereby doubling our road building expenses.

After completing our investigations of the proposed drill road A, we proceeded to access route B'. (It will be noted that this road is now in extreme disrepair due to flooding. Extensive road work will be needed to recondition the road.) From here we made our way to proposed drill road B, as found on the map. This route follows an old road from the valley bottom up to a long series of east-west ridges in the area. Once on top we could follow this ridge system to our proposed location of drill hole #9. As before Mr. Johnson was insistent that the Forest Service would require a

minimum of road work be done by bulldozer. He said, "Handtools can be used to take this stuff (brush) out, and it's no use putting a blade in." It is my assumption that this will have to be followed or extreme repercussions could be forthcoming from the Forest Service. The route into drill hole #9 was then flagged.

Mr. Johnson and I then walked out the proposed route to our originally planned drill hole #9, as submitted in our July plan of operation to the U. S. Forest Service. (See road C.) We had been denied permission by the Forest Service to construct this drill road on the grounds that it destroyed too much native vegetation. Since that time extensive stream channel changes caused by the flood have made access even more difficult. We have now chosen to proceed with construction of proposed drill road B to location drill hole #9. This will leave the Corral Canyon route open for future exploration drill holes in the area, if they are deemed necessary.

In conclusion, the new routes into location drill holes #9 and 12 have many advantages over those previously proposed. Those advantages are as follows:

1. The new routes allow easier access to potential exploration holes in the area. New exploration drill holes can be drilled off of the now proposed access route on spurs leading off the main ridges to areas some 1,000' distant from the proposed access route. Thus, we have increased our lateral and horizontal movement by a considerable factor.
2. The proposed drill roads could possibly be connected at a later date to give us extensive mobility over the western area of our claim block. This area is currently inaccessible to wheeled vehicles or other types of equipment.
3. A mini-environmental impact statement can now be written by the Forest Service. Hopefully this report can be referred to in the future instead of having to write an environmental impact statement each time we wish to put in a drill road.
4. Road work performed should remain in a fairly stable condition over a 2 or 3 year exploration period. Stream valley routes are potential victims for washout during summer rains and might possibly need to be reconstructed on a yearly basis.
5. Since a great number of potential drill sites are within a short distance of both access drill roads, it is

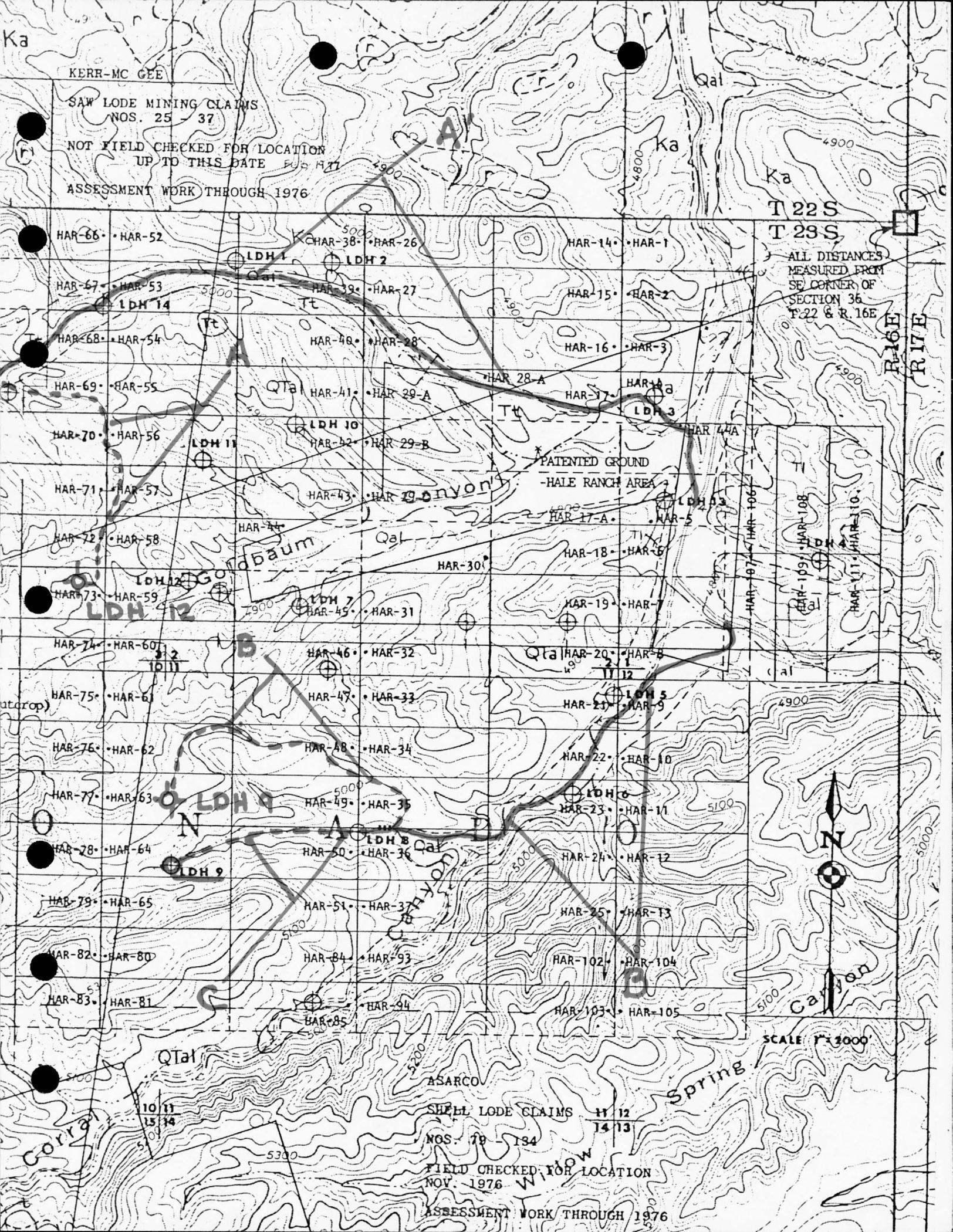
assumed that drill road construction for future drill sites will be kept at a minimum, thus cutting cost for exploration outlays.

6. We can now use drill road construction costs toward 1978 assessment work. Also any additional drilling footage over 200' (on location drill holes #9 and 12) can be counted toward 1978 assessment work.

In a side note, Doug Sayers, Environmental Officer of the U. S. Forest Service, called on Wednesday, October 12, inquiring if you, Jim, or I could come down and show him the proposed access routes into the area. He also wanted to know where possible future drill holes might be located in order that he could write an environmental impact statement on the total area and thus be covered for any future drill work. As of this date, a tentative meeting date has been set for Thursday or Friday, October 27 or 28 in order to go over our proposed routes into our location drill hole sites.

Jim, I am trying to be as cordial with the Forest Service as possible in order that we may get our work done in the Harshaw area as soon as possible. Yet each time I have to go down to Harshaw it takes a day of my time and adds expenses toward the project. The Forest Service is creating alot of consternation and expenses for us prior to giving permission for the construction of drill roads. I think this is best exemplified by their totally ludicrous idea of clearing brush by hand. Even though these government representatives live and work in a region much dependent on mining, they seem to have very little regard for the cost involved by their constant shenanigans and seemingly little realization of the extent of their belaborment of the mining industry with their bureaucratic red tape.

Memo #0091  
mp



KERR-MC GEE

SAW LODE MINING CLAIMS  
NOS. 25 - 37

NOT FIELD CHECKED FOR LOCATION  
UP TO THIS DATE

ASSESSMENT WORK THROUGH 1976

T 22 S  
T 23 S

ALL DISTANCES  
MEASURED FROM  
SE CORNER OF  
SECTION 36  
T-22 & R-16E

PATENTED GROUND  
-HALE RANCH AREA

FIELD CHECKED FOR LOCATION  
NOV. 1976

ASSESSMENT WORK THROUGH 1976

SCALE 1" = 3000'

ASARCO  
SHELL LODE CLAIMS  
NOS. 79 - 134

H 12  
14 13

10 11  
13 14

MEMO

To: J. A. Briscoe

From: T. E. Waldrip, Jr.

Date: October 21, 1977

Re: Proposed labor and expenses to complete access roads into validation drill holes #9 and #12, H.A.R. claim group, Project 134, Harshaw, Santa Cruz County, Arizona

The following things need to be done in order to gain access to location drill holes #9 and 12.

#### ACCESS TO LOCATION DRILL HOLE #12

We will have to rebuild a portion of access road A' (see map) where it was washed out in the eastern portion of the claim block. Minor grading will also have to be done along the entire route of A' in order to remove large ruts and boulders which have slid off of hills during the flood. Access road A (see attached map) will have 4 stages of construction.

Stage 1: Approximately 1,500' of east-west road construction up a series of low ridges. This will consist of leveling out 2 streams, reestablishment of grade and shoulders on an old wagon road, and construction of water bars using a bulldozer. In addition minor blasting may be necessary in order to remove zones of Gila conglomerate found in the proposed roadbed area. This takes us to the approximate area of discovery post H.A.R. #69.

Stage 2: Removal of overhanging oak tree branches in area of Stage 1 road construction.

Stage 3: Minor leveling may be necessary from the discovery of H.A.R. #69 to the south, but this should not be very extensive since we will follow ridge tops to the location drill hole. Most work along the approximately 2,000' route will entail clearing out manzanita and scattering the debris over the area. In addition minor rocks will have to be removed to allow easier access for the drill rig. Three fence gates will have to be made in order to allow access across fence lines in the area. Minor blasting of solid bedrock (Gila conglomerate) may be necessary near the southeast corner of H.A.R. #71 in order to smooth out a rough area of approximately 50'.

Stage 4: Since location drill hole #12 is planned to be more than 100' in depth, we will have to construct a drilling pad and possibly dig a mud pit or two in order to dispose of cuttings produced during the drilling process.

#### ACCESS TO LOCATION DRILL HOLE #9

Washed out portions of access road B' (see attached map) will have to be reconstructed. Eight areas will have to be releveled and stream banks removed by bulldozer to allow passage by the drill rig. This will get us to the starting of proposed drill road B (see map). Road work on drill road B will require essentially 2 stages.

Stage 1: The initial 1,000' of drill road B will need to be leveled and widened in several areas. This will put us on top of an east-west ridge system.

Stage 2: Manzanita bushes must be removed along the ridge tops for approximately 2,000' to location drill hole #9. Two fence gates found in the same area must be reconstructed. In addition, minor road work will probably be necessary in several spots, a job that can probably be accomplished by one pass of the dozer blade over the ground.

Cost and time estimates are found on the following summary pages.

Memo #0092  
mp

COST ESTIMATE OF EXPENSES TO BE INCURRED TO  
COMPLETE LOCATION DRILLING ON THE H.A.R. GROUP  
LODE MINING CLAIMS, PROJECT 134, HARSHAW, ARIZONA

A. Bulldozer work

1.	Access road construction to location drill hole #12	
a.	Primary access road A reconstruction 3 hr. work @ \$50/hr. =	\$ 150.
b.	Proposed drill road construction A 8 hr. @ \$50/hr. =	400.
c.	Drill pad construction and mud pits location drill hole #12 1 hr. work @ \$50/hr. =	<u>50.</u>
	Total dozer work for location drill hole #12	\$ 600.
2.	Access road construction to location drill hole #9	
a.	Primary access road B' 4 hr. work @ \$50/hr. =	\$ 200.
b.	Proposed work on drill road B 6 hr. work @ \$50/hr. =	<u>300.</u>
	Total dozer work for location drill hole #9	500.
3.	Miscellaneous bulldozer expenses	
a.	Mobilization and demobilization of cat One-time charge =	\$ 250.
b.	Highway permits (overweight) 2 ways @ \$25/one-way =	50.
c.	Food and lodging 3 days @ \$30/day =	90.
d.	Mileage (pick-up) 240 miles @ 25¢/mile =	<u>60.</u>
	Total miscellaneous expenses	<u>450.</u>
	TOTAL BULLDOZER WORK	\$1550.

B. Blasting and powder hole preparation, drill hole #12

1.	Rental of compressor and 1 day labor =	<u>\$ 350.</u>
	TOTAL BLASTING & HOLE PREPARATION, L.D.H.#12	\$ 350.

C. Hand labor used to clear brush and construct fence gates

1.	Drill road A construction, L.D.H. #12 40 hr. @ \$10/hr. =	\$ 400.
	Total hand labor L.D.H. #12	\$ 400.
2.	Drill road B construction, L.D.H. #9 60 hr. @ \$10/hr. =	\$ 600.
	Total hand labor, L.D.H. #9	600.
3.	Food and lodging expenses for field labor 10 days @ \$25/day	250.
	Total food and lodging expenses	250.
	TOTAL FIELD LABOR EXPENSES	\$1250.

D. Supervision expenses

1.	Labor 20 hrs. @ \$12/hr.	\$ 240.
2.	Food and lodging 5 days @ \$30/day (supervisor helps with hand labor for 2½ days plus supervisory duties)	150.
3.	Rental of chain saw 5 days @ \$25/day	125.
4.	Mileage (SEA vehicle) 350 miles @ 24¢/mile =	84.
5.	Off pavement fee 5 days @ \$10/day =	50.
	Total supervisor expenses	649.
	GRAND TOTAL	\$3799.

Totals:

1.	Bulldozer work 22 hrs. or 3 days	
2.	Hand labor 100 hrs. or 12½ mandays (2 man crew for 5 days with supervisor helping for additional 2½ days, making total of 12½ days)	
3.	Total expenses for drill road A construction, location drill hole #12	\$2,000.
4.	Total expenses for drill road B construction, location drill hole #9	\$1,799.



KERR-MC GEE  
SAW LODE MINING CLAIMS  
NOS. 25 - 37

NOT FIELD CHECKED FOR LOCATION  
UP TO THIS DATE Feb 1977  
ASSESSMENT WORK THROUGH 1976

T 22 S  
T 23 S  
ALL DISTANCES  
MEASURED FROM  
SE CORNER OF  
SECTION 36  
T 22 & R 16E

PATENTED GROUND  
-HALE RANCH AREA-

ASARCO  
SHELL LODE CLAIMS  
NOS. 79 - 134  
FIELD CHECKED FOR LOCATION  
NOV. 1976  
ASSESSMENT WORK THROUGH 1976

MEMO

To: James A. Briscoe

From: Thomas E. Waldrip, Jr.

Date: October 17, 1977

Re: Proposed completion of drilling project at Harshaw, P-134.

Jim, this is an update of the progress toward completion of the drilling project initiated in July of the HAR claim group located near Harshaw. As was noted during the middle part of September, a telephone call was placed to the U. S. Forest Service office in Sierra Vista, Arizona. At this time it was determined that the Forest Service would not allow us to complete roads into the HAR claim group for validation drilling. Thus our plan of operation which was submitted to the Forest Service early in July could not be followed.

During the conversation with Doug Sayers of the U. S. Forest Service, he suggested that the best route out for validation drill holes would be portable equipment, unless we were planning to drill deeper exploration holes in the same area. Then he felt that we probably would be able to complete drill roads into the area originally planned, but this would be under close supervision of the U.S. Forest Service. At this time it was decided that we would wait until we got back to Tucson to further our efforts in getting into the area with drill roads so that we could validate the two claim blocks (of 10 claims each) left in the area.

It was decided that on October 18 you and myself would visit the area flagging, alternate, drill roads into our two claim blocks. On Friday, October 14, I set up a meeting with Dennis Johnson of the Forest Service to meet us at the Wheeler Ranch and to go over alternate roads that we propose into the area. This will be carried out tomorrow on October 18, 1977.

During Monday, October 17, 1977, Mr. Bill Christie of W. Christie and Company was recontacted for possible drill road work in the Harshaw area. During the conversation, Mr. Christie stated that he would be able to do the work, but would like to have at least two weeks notice in order to get the proper permits and also schedule his work to his best advantage. At this time I reaffirmed his charges, and they are as follows:

Dozer work will be charged at \$50/hr. This includes the dozer operator.

Mobilization and demobilization will be charged at a flat fee of \$250.

All materials used will be at cost.

Meals and motel rooms will be at cost.

If blasting is necessary, 2 additional laborers will be required plus transportation of the powder and other articles used in the blasting process, renting of a compressor, and food and lodging for laborers.

Mr. Christie stated that the cost for compressor rental, transportation and laborers generally runs approximately \$300 per day.

An attempt was also made to contact Orse Mancheck of Drilling Services, Inc. located in Phoenix. Mr. Mancheck was not in the office at that time as he is returning from the Fiji Islands where Drilling Services is presently carrying on a drilling project. No one else was in the office at that time who could help me with my problem. Mr. Norm Melhorn returned my call at about 4:45 p.m., October 17, 1977. During our telephone conversation it was learned that Drilling Services will probably not have a drill rig in the Tucson area for another 6 weeks or so. It seems that at the present time 2 drill rigs are located in the Tonopah area, and one of these will not be moving back to Arizona until the middle or end of November. (As a sidenote: The drill rigs for Drilling Services, Inc. are drilling at Manhattan, Nevada, and Silver Peak, Nevada for companies not mentioned.) Mr. Melhorn stated that he would like to work with us and wait until a drill rig comes back into the Tucson area in order to keep the cost of mobilization down.

MEMO #0087

mp

RECEIVED AUG 12 1977

August 9, 1977

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Attention: Mr. Tom Waldrip

Dear Tom;

We enclose herewith our billing for the Patogonia area work. Therein is also included the drilling operations summary and supporting invoices for chargeable items (excepting casing costs).

Best regards.

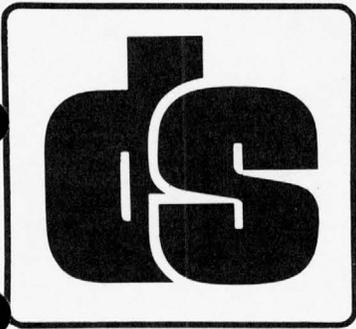
Yours very truly,

*OM*

O. Manchak  
General Manager

OM:jm  
Encls.





drilling services inc.

C  
L  
I  
E  
N  
T  
Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Attention: Mr. Tom Waldrip

REVERSE CIRCULATION ROTARY DRILLING SERVICES

<b>CLIENTS AUTHORIZATION</b>	DSI JOB NO: <u>044</u> DATE: <u>August 9</u> 197 <u>7</u> INVOICE NO: <u>325</u>
	Purchase Order No. _____/or PERIOD OF ACTIVITY: <u>7/25 - 29/77</u> Incl. LOCATION: <u>Patagonia area, Arizona</u>
Acceptance of our offer of drilling services No. 784A, dated 6/14/77.	TERMS: <u>NET 30 DAYS.</u> Invoices unpaid 30 days after date of invoice will be assessed a carrying charge of 1% per month (equals 12% per annum).

**SUMMARY OF ACTIVITY AND CHARGES**

		TOTALS	
		\$	
1.	MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT:		
	Lump Sum	850	00
2.	DAILY CREW TRAVEL TO AND FROM JOB SITE:		
3.	CREW STANDBY:		
4.	SERVICES PROVIDED AND/OR MATERIALS FURNISHED:		
a.	<u>Job Site Drilling Services:</u>		
	30½ hours @ \$ 115.00 per hour	3,507	50
b.	<u>Materials Furnished:</u>		
	1 x 5 gallons DD Soap	\$ 54.88	
	1 x 4½" Tricone	143.97	
	1 load Water	<u>2.00</u>	
	Sub Total	\$ 200.85	
	Plus 15% Handling	<u>30.13</u>	
		230	98
	24 feet Casing @ \$ 5.00 per foot (from stock, net price)	120	00
c.	<u>Water Truck Rental</u>		
	As per Ace Rental Invoice No. A3236 \$ 338.74 @ 50%	169	37
ORIGINAL CLIENT'S INVOICE			
<b>TOTAL THIS INVOICE</b>		<b>\$ 4,877</b>	<b>85</b>

# BILL JOHNSON EQUIPMENT COMPANY

PHONE  
(602) 275-5415

WATER WELL DRILLING AND FISHING TOOLS  
21 SOUTH 40th STREET  
PHOENIX, ARIZONA 85034

INVOICE NO. 2994

INVOICE DATE 7-12-77

SHIPPED TO

SOLD TO . DRILLING SERVICES, INC.  
1521 S. INDIAN BEND RD.  
SUITE 3  
TEMPE, AZ 85281

DATE	CUSTOMER'S ORDER NO.	F.O.B.	SHIP VIA	TERMS:	
7-9-77	1867	Phx.	Pick Up	1% 10 DAYS NET 30	
B.O.	QUANTITY	DESCRIPTION		UNIT	AMOUNT

2	5 Gal Cans Quik Foam	51.75	\$103.50	
		1% Surcharge	<u>1.04</u>	
			104.54	
		Tax	<u>5.23</u>	
			109.77	
				\$ 54.88

# WALKER-McDONALD MFG. CO.

TELEX 73-0148

CABLE ADDRESS - WALMAC

TELEPHONE 214/455-6627

P. O. BOX 1060

GREENVILLE, TEXAS 75401 - USA

-Effective March 25, 1977-

## WALKER-McDONALD ROCK BIT PRICE LIST

### 3-CONE ROCK BITS

### WM LIST PRICE

2 7/8"	\$84.32	
2 15/16"- 3 7/8"	\$84.32	-
4"- 4 1/4"	\$85.47	
4 1/2"	\$87.78	-
4 3/4"- 4 7/8"	\$97.02	
5"	\$102.80	-
5 1/8"- 5 1/4"	\$123.97	←
5 5/8"- 5 7/8"	\$187.80	✓
6"- 6 1/4"	\$219.54	
6 3/4"	\$309.47	

### 2-CONE ROCK BITS

### WM LIST PRICE

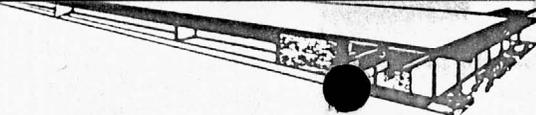
2 3/8"	\$76.23	123.97
4 1/4"	\$76.23	20.
4 1/2"	\$78.54	143.97
4 3/4"	\$85.47	

F.O.B. DESTINATION (EXCLUDING ALASKA & HAWAII)(MOTOR FREIGHT OR PARCEL POST ALLOWED)

TERMS: 2%-10 DAYS/NET 30 DAYS .

### NOTE

A CHARGE OF \$ 20.00 PER BIT SHOULD BE ADDED TO THE ABOVE BIT COSTS FOR THE COST ←  
OF MACHINING THE BITS FOR REVERSE CIRCULATION USE.



A 3236

1011 SOUTH GUDENCE - TUCSON, ARIZONA 85710  
3655 EAST AJO - TUCSON, ARIZONA 85714  
PHONE 296-7611

# ACE RENTALS

FOR THE CONTRACTOR

LESSEE'S NAME <i>DRILLING SERVICE</i>		DATE	TIME
ADDRESS		IN <i>7-29</i>	<i>8:30</i>
CITY STATE ZIP		OUT	<i>12:00 8/1/88</i>
JOB ADDRESS	JOB NO.	TOTAL TIME OUT	
P.O. NUMBER	DRIVER'S LICENSE	HOURS	DAYS WEEKS MONTHS
PHONE	BIRTH DATE	HOURS READING	
		HOURS IN	HOURS OUT
		CONTRACT EXPIRES <i>24 HOURS</i>	

RENTAL PERIOD *19534* TO *19358*

QUANTITY	EQUIPMENT RENTED	MINIMUM		RENTAL RATE			AMOUNT
		HOURS	AMOUNT	HOURLY	DAY	WEEK	
<i>1</i>	<i>2000 GHI drilled track</i>			<i>75.00</i>			<i>300.00</i>
	<i>4000 GHI drilled track</i>						
	<i>1000 GHI drilled track</i>						

**PROTECTION OF LESSEE  
IMPORTANT**

LESSEE IS RESPONSIBLE FOR ALL TIRE DAMAGE AND REPAIR.

YOU MUST OBTAIN PICKUP NUMBER FROM ACE OFFICE UPON CALLING EQUIPMENT OFF RENT.

CHECKED OUT BY <i>PHK</i>	CHECKED IN BY <i>Bob</i>	TOTAL MILES	FUEL @ <i>12.04</i>
DELIVERY MILES ENDING	DELIVERY MILES STARTING		

DELIVERED BY:	PICK UP BY:	EQUIPMENT DAMAGE WAIVER (SUBJECT TO TERMS & CONDITIONS AVAILABLE IN LESSOR'S OFFICE)	YES <input type="checkbox"/> NO <input type="checkbox"/> INITIAL <i>PHK</i>
CONTINUED FROM INVOICE NO.	SALES	SUB-TOTAL RENTAL	<i>330.04</i>
		RENTAL TAX	<i>8.70</i>
		TOTAL SALES	
		SALES TAX	
		DEPOSIT	
		<b>TOTAL</b>	<i>338.74</i>

ARIZONA REVISED STATUTES ARTICLE 39, TITLE BY EMBEZZLEMENT TITLE 13-881(B) A person is guilty of theft by embezzlement who has leased or rented a motor vehicle, trailer, equipment, or tool and who fraudulently fails to return the motor vehicle, trailer, equipment, or tool to its owner within ten days after the lease or rental agreement has expired. Lessee must sign in writing any extension of the contract beyond expiration date.

**CONTRACT AGREEMENT:** Lessee does hereby rent and accept the above listed equipment and acknowledges that it is in good working condition and agrees to pay on demand, in cash, the rent for said property at the rate herein stated; Lessee further agrees to take care of said equipment and to use it in a proper manner and agrees that in the event any of the rented equipment is lost or destroyed before it is returned, to promptly pay the full value of said rented property or if it is damaged or injured in any way, including tire damage of any kind, to pay an amount equal to the reasonable cost of repairing the same.

Lessor is hereby released from any and all claims for damages to Lessee, by reason of the use of said property; Lessee agrees to indemnify Lessor from any and all claims for damage to any person or property by reason of the use of said leased property by Lessee or any other person from date hereof until said property is returned to Lessor.

It is understood that the rental commences as of the date and time hereof and ends only when the rented equipment is returned. Should said property not be returned to Lessor at the time specified as herein stated, Lessee agrees to pay rent for all additional time beyond that when the same is due, at the rate hereinabove specified. It is agreed that upon failure to pay rent or if default is made in any of the other terms hereof, Lessor may at once take possession of said rented equipment wherever the same may be found and remove the same, and the company or its agents shall in no way be liable for any claims for damage or injury in the removal of said equipment.

Lessee further agrees that all charges for rental will be paid in advance, or immediately upon return of merchandise, or upon receipt of statement for same and that all collection fees, attorney fees, court costs, or any expense incurred in collecting said rental will be paid by Lessee. I HAVE READ THE TERMS & CONDITIONS OF THIS RENTAL AGREEMENT & AGREE THERETO.

CHECKED IN SIGNED	CHECKED OUT SIGNED <i>[Signature]</i>	DISBURSEMENT NUMBER <i>401-2</i>	TIME CALLED FOR PICKUP
-------------------	---------------------------------------	----------------------------------	------------------------

CUSTOMER BILLING COPY

OUR CHARGES ARE BASED ON TIME OUT - NOT TIME USED

© S

DRILLING OPERATIONS SUMMARY

SUPPLEMENT TO BILLING INVOICE NO. 325

CLIENT: Southwestern Expl. LOCATION OF WORK: Patagonia, Arizona PERIOD OF WORK: 7/25-7/29 Incl. 1977. PROJECT NAME: \_\_\_\_\_ DSI JOB NO. 044

PERSONNEL EMPLOYED: DRILLER (S) R. Prefling SUPERVISOR: N.E. Mehlhorn TOTAL OTHER PERSONNEL EMPLOYED: 2 TOTAL JOB SITE EMPLOYMENT 3

EQUIPMENT EMPLOYED: DRILL(S) Unit No. 404 SERVICE UNIT (S) Unit No. 206 RWT \_\_\_\_\_ PICK UP (S) Unit No. 102 OTHER Mission Hammer

DATE	EXPLANATION OF ACTIVITY	HOLE NO.	DISTRIBUTION OF HOURS CONSUMED ON THE JOB										MTNCE	TOTAL JOB HRS	CUMUL. FOOTAGE	CONSUMABLE SUPPLIES	
			DAY SHIFT					NIGHT SHIFT									
			TRAVEL CHGE N/C	DRILLING CHGE N/C	FOOTAGE CHGE N/C	STANDBY CHGE N/C	OTHER CHGE N/C	DRILLING CHGE N/C	FOOTAGE CHGE N/C	STANDBY CHGE N/C	OTHER CHGE N/C						
7/25	Drilling	1,2,3	2	6½	105									3	11½	105	1x5 1/8" Used Hammer Bit
26	Drilling, Maintenance	3	1	1½	45									2	4½	150	1x5½" Used Gruner
27	Drilling, Maintenance	4,5	1	4	80									4½	9½	230	1x5 gal. DD Soap
28	Drilling, Maintenance	5,6 7,8	1	10	400									½	11½	630	1x5½" Tricone
29	Drilling	7,14	1	8½	200									1½	11	830	1 Load Water 24' of casing
TOTALS			6	30½	830									11½	48	830	

PRODUCTIVITY

	DAY SHIFT	NIGHT SHIFT	THIS PERIOD	TO-DATE
JOB HOURS.			48	48
DRILL HOURS.			30½	30½
FOOTAGE.			830	830
FT. DRILL PER JOB HR.			17.29	17.29
FT. DRILL PER DRILL HR.			27.21	27.21

JOB COSTS

	THIS PERIOD	TO-DATE COSTS	COST/FT.
TOTAL MOB. & DEMOB. COSTS .	\$ _____	\$ 850.00	\$ 1.02
TOTAL DRILLING COSTS.	_____	3,507.50	4.23
TOTAL MATERIAL COSTS.	_____	185.42	.22
TOTAL DRILL BIT COSTS.	_____	165.56	.20
OTHER COSTS -Water Truck Rental	_____	169.37	.20
<b>TOTAL COSTS</b>	<b>\$ _____</b>	<b>\$ 4,877.85</b>	<b>\$ 5.87</b>

REMARKS: \_\_\_\_\_





drilling services inc.

C  
L  
I  
E  
N  
T

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Attention: Mr. Tom Waldrip

REVERSE CIRCULATION ROTARY DRILLING SERVICES

CLIENTS AUTHORIZATION	DSI JOB NO: <u>044</u> DATE: <u>August 9</u> 197 <u>7</u> INVOICE NO: <u>325</u>
	Purchase Order No. _____ /or PERIOD OF ACTIVITY: <u>7/25 - 29/77 Incl.</u> LOCATION: <u>Patagonia area, Arizona</u> Acceptance of our offer of drilling services No. 784A, dated 6/14/77. TERMS: _____ NET 30 DAYS. Invoices unpaid 30 days after date of invoice will be assessed a carrying charge of 1% per month (equals 12% per annum).

SUMMARY OF ACTIVITY AND CHARGES

		TOTALS	
		\$	
1.	MOBILIZATION AND DEMOBILIZATION OF PERSONNEL AND EQUIPMENT:	Lump Sum	850 00
2.	DAILY CREW TRAVEL TO AND FROM JOB SITE:		
3.	CREW STANDBY:		
4.	SERVICES PROVIDED AND/OR MATERIALS FURNISHED:		
	a. <u>Job Site Drilling Services:</u>		
	30½ hours @ \$ 115.00 per hour		3,507 50
	b. <u>Materials Furnished:</u>		
	1 x 5 gallons DD Soap	\$ 54.88	
	1 x 4½" Tricone	143.97	
	1 load Water	2.00	
	Sub Total	\$ 200.85	
	Plus 15% Handling	30.13	230 98
	24 feet Casing @ \$ 5.00 per foot (from stock, net price)		120 00
	c. <u>Water Truck Rental</u>		
	As per Ace Rental Invoice No. A3236 \$ 338.74 @ 50%		169 37
DUPLICATE CLIENT'S INVOICE		TOTAL THIS INVOICE	\$ 4,877 85

DRILLING OPERATIONS SUMMARY

SUPPLEMENT TO BILLING INVOICE NO. 325

CLIENT: Southwestern Expl. LOCATION OF WORK: Patagonia, Arizona PERIOD OF WORK: 7/25-7/29 Incl. 1977. PROJECT NAME: \_\_\_\_\_ DSI JOB NO. 044

PERSONNEL EMPLOYED: DRILLER (S) R. Prefling SUPERVISOR: N.E. Mehlhorn TOTAL OTHER PERSONNEL EMPLOYED: 2 TOTAL JOB SITE EMPLOYMENT 3

EQUIPMENT EMPLOYED: DRILL(S) Unit No. 404 SERVICE UNIT (S) Unit No. 206 RWT \_\_\_\_\_ PICK UP (S) Unit No. 102 OTHER Mission Hammer

DATE	EXPLANATION OF ACTIVITY	HOLE NO.	DISTRIBUTION OF HOURS CONSUMED ON THE JOB										MTNCE	TOTAL JOB HRS	CUMUL. FOOTAGE	CONSUMABLE SUPPLIES					
			DAY SHIFT				NIGHT SHIFT														
			TRAVEL		DRILLING	FOOTAGE	STANDBY	OTHER	DRILLING	FOOTAGE	STANDBY	OTHER									
	CHGE	N/C	CHGE	N/C	CHGE	N/C	CHGE	N/C	CHGE	N/C	CHGE	N/C	CHGE	N/C							
7/25	Drilling	1,2,3		2		6½			105									3	11½	105	1x5 1/8" Used Hammer Bit
26	Drilling, Maintenance	3		1		1½			45									2	4½	150	1x5½" Used Gruner
27	Drilling, Maintenance	4,5		1		4			80									4½	9½	230	1x5 gal. DD Soap
28	Drilling, Maintenance	5,6 7,8		1		10			400									½	11½	630	1x5½" Tricone
29	Drilling	7,14		1		8½			200									1½	11	830	1 Load Water 24' of casing
TOTALS				6		30½			830									11½	48	830	

PRODUCTIVITY

	DAY SHIFT	NIGHT SHIFT	THIS PERIOD	TO-DATE
JOB HOURS.			48	48
DRILL HOURS.			30½	30½
FOOTAGE.			830	830
FT. DRILL PER JOB HR.			17.29	17.29
FT. DRILL PER DRILL HR.			27.21	27.21

JOB COSTS

	THIS PERIOD	TO-DATE COSTS	COST/FT.
TOTAL MOB. & DEMOB. COSTS .	\$	\$ 850.00	\$ 1.02
TOTAL DRILLING COSTS.		3,507.50	4.23
TOTAL MATERIAL COSTS.		185.42	.22
TOTAL DRILL BIT COSTS.		165.56	.20
OTHER COSTS -Water Truck Rental		169.37	.20
TOTAL COSTS	\$	\$ 4,877.85	\$ 5.87

REMARKS: \_\_\_\_\_



Don

FILE MEMO

Project 134

Date: August 9, 1977

From: T.E. Waldrip, Jr. :

Re: Problems encountered with Norman Hale in Crossing his  
Ground to Validate our Location Drill Hole #s 7, 10 & 12

During several periods in July, attempts were made to contact Mr. Norman Hale and show him where our validation drill holes for the HAR Group of claims would be located. We tried to get permission to cross his ground via telephone conversations, but this became quite difficult in that he did not have a map which showed exact locations of those areas and did not know where we would be crossing his ground.

On the morning of July 19, 1977, Mr. Dennis Johnson from the U.S. Forest Service, Sierra Vista Office, called inquiring if it would be possible for me to come down and show him the proposed drill road routes so that he and Doug Sayers, USFS, could write a short environmental impact statement on the area. This meeting was to take place at the Stage Stop Motel Wednesday, July 20, 1977, at approximately 11:00 a.m. Since I still had not been able to get in contact with Mr. Hale regarding the crossing of his land, I thought this a good time to try and make an appointment with him to show him the access areas across his land to our validation drill holes. At approximately 5:30 p.m. on Tuesday, July 19, 1977, I called Mr. Hale to make an appointment. He suggested that I try to get there as early in the morning as possible, since he had to go to Nogales early in the afternoon. I told him that I would try to be there by about 8:30 a.m.

On Wednesday, July 20, 1977, I arrived at Mr. Hales' house at Harshaw, Arizona, at approximately 8:30 a.m. For a period of over an hour I waited for Mr. Hale to finish his chores around the ranch, while talking to his wife about various ranching and farming happenings in the area. At about 9:45 a.m. He showed up apologizing for being late. Since time was running out, I decided that we had better get on the road at that time and give him a very quick showing of what we planned to do. Leaving his house shortly thereafter, we traveled up the back road out of Harshaw toward his patented ranch ground in Goldbaum Canyon. I showed him where all drill holes would be located along the road. These include Drill Hole 1, 2, & 3. From there he showed me a gate entrance which crossed his property but was locked at all times. This gate proved to be much easier access to our proposed drill locations for the drill truck. We drove out through Mr. Hale's ground in Goldbaum Canyon, and I showed him where all location holes would be drilled and even showed him where the proposed drill roads would be off of his property. Fortunately, during this time, Mr. Hale was able to show me the location of one of Texasgulf's drill holes near our drill hole #12. It was

determined that this hole was much closer to our proposed drill hole than previously thought. Since time was getting short I told Mr. Hale that we should be moving on so that I could show him the rest of the drill holes in the area. We drove around and out of his ranch ground down to the main road which goes out into the San Rafael Valley at the east end of his patented ground. I showed him where Drill Hole #13, 14, 5, 6 and 8 would be located and mentioned the fact that we would be putting in a road on up Corral Canyon to Drill Hole #9. I also mentioned the fact that this would require a plan of operation be submitted to the U.S. Forest Service, which had already been filed with them.

While in Corral Canyon, Mr. Hale mentioned that he would like to have an old drill hole reamed out and casing set, in order for him to use this drill hole as a water well. This drill hole is located on the eastern boundary of H.A.R. Claim #36 and approximately 200' north of the northeast corner of H.A.R. #37. Being careful not to say anything that might give an indication that we would drill the hole, I stated that I would have to ask Jim Briscoe for permission to drill this hole and probably he would not even grant it at all.

Leaving this area, we returned to Mr. Hale's house. While there I asked three times if it would be alright to take a cat and the drill rig into the area, crossing his ground. Two of these times he side stepped the question and started mentioning compensation of drilling or reaming the drill hole out in Corral Canyon as a means of payment for crossing his ground. The third time that I asked Mr. Hale, he grudgingly said, "Yes, you can cross my ground with the drill rig," but was somewhat hesitant in approving the crossing of the cat to doze the proposed drill road B, as shown on the plan of operation. I told him at that time that we could possibly take the cat across his land on a low boy, thus not disturbing the pasture. He seemed to indicate that this might be one method of doing it, and that he might be favorable to that method. At this time, it was my definite feeling that Mr. Hale had given permission for us to cross his ground with the drill rig, but I felt that he still had not granted us permission to cross his ground with the cat and dozer. Since it was already 11:15, I decided that I had better leave to get in contact with Mr. Johnson at the Stage Stop Motel. Arriving there at 11:30, Mr. Johnson had already left and stated that he would be back in the area around 1:00. Fortunately I was able to meet him later that afternoon.

On Monday, July 25, 1977, drilling began by Drilling Services Inc. of Tempe, Arizona, on our validation drill holes. Shortly after 5:00, Mr. Hale drove up. He asked how the drilling was going. I told him that everything was going fine, except that we had encountered some clay and had various mechanical problems. He then told me of the several drill holes he knew in the area which had also encountered clay and stated that this made drilling very difficult. He asked me then if I had found out if it would be alright

to ream out the hole from Mr. Briscoe. I told him that due to our contractual agreements with both our clients and the drilling company that we felt that we could not do this work for him. He said, "well, I was hoping that you could do the work for me, since it would only take an hour or so to ream out the hole and put the casing down. I already have the casing. I just thought that possibly we could work some sort of deal out on this." I told him that I was sorry that we could not do this, but, since we had contractual agreements with our client, they would not stand for the cost and, thus, we would be out the money. I asked him if it would still be OK to cross his ranch ground to get at our location drill holes with the drill truck. He seemed to indicate that this was still alright and that I could pick up the key when I wanted. I asked him if he would be in the rest of the week. He said that he would be there most of the week. I told him at that time that I felt that we would not be bringing a cat into the area across his ground, due to the fact that the Forest Service had not granted us permission from our filed plan of operation yet. I also mentioned that I wanted to wait until the end of the week or the end of our drilling to go onto his ground to allow the top soil to dry out after the hard rains that they had had Saturday night, July 23, in the area. He seemed to indicate that this was to his liking.

At approximately 1:45 p.m. on the afternoon of July 28, 1977, I went to Mr. Hale's house to pick up the key in order to cross his ground to get at our location drill holes #7 and #10. Mr. Hale was not home at the time. He had gone to Tucson with his brother to the hospital. Apparently his brother was having some type of medical problem, and Mr. Hale would not return until later on in the afternoon of July 28. I told Mrs. Hale that Mr. Hale had said that it was alright to stop by and get the key. She was very hesitant giving me the key, because she said she did not know how her husband would react or what he had told me. I tried to assure her that her husband had told me (and by all indications up to this date) that it was alright to cross the ground. She said that he had mentioned the fact that he was very hesitant to allow the cat to go across his ground but had said nothing about the drill rig. I assured her that I would not be taking the cat across the ground and only wanted to take the drill rig in, staying only on previously existing roads or pickup tracks on the ranch.

At this time, it was still not determined whether Mr. Hale had left his keys which would allow us to get into the ground. Mrs. Hale went into the house and finally came out with the keys. She was very hesitant in giving me the keys but finally gave them to me, asking that I bring them back that evening, and at that time I could talk to Mr. Hale.

We entered Mr. Hale's gate at approximately 4:30 p.m. on July 28, 1977, and proceeded across his ground, staying very close to previous roads on his ranch. We proceeded to Drill Hole #10 and set up and began drilling the 100' validation drill hole. At about 7:15, we shut down the rig for the night and left the ranch, locking the gate when leaving. Bill and I drove to Mr. Hale's house to leave the key. Mr. Hale was still not at home, so I asked permission to keep the key over night in order to open the gate the next morning. Mrs. Hale asked how long we would be out in the ranch ground, and I told her not longer than one half day longer. Of course, I added, "This depends on whether we have any mechanical failures or not."

On Friday, July 29, 1977, we entered the ranch ground at approximately 8:15 a.m. and proceeded to Drill Hole #10. Upon finishing the drill hole at 9:00, we moved off site toward Location Drill #7. In order to do this, we had to retrace our route back out to Goldbaum Canyon and back toward the fence gate. About half way back up the canyon near a group of trees the road crossed a wash and we were able to gain access to Location Drill Hole #7 by crossing the wash and proceeding up the other side. In so doing, we followed pickup tracks along this side of the wash. It was apparent that we did knock down some grass in Mr. Hale's pasture, but, in my way of thinking, this was very minor since Mr. Hale used this road to take feed out to his horses and deposit it in a large feeding trough.

At 10:00 a.m. on Friday, July 29, Mr. Hale showed up at Location Drill Hole #7. He waited in his pickup several minutes while I finished taking a sample. Upon finishing the sample, I walked over to his pickup, not quite believing what I got hit with. His first statement was something to the effect of, "I never gave you permission to come on my land with that drill truck." I was somewhat taken aback at this statement, since all indications up to this time had been that Mr. Hale was very conducive to the idea of allowing us to cross his ground with the drill truck. Not wanting to get into an argument with him, I tried to find out, the best I could, what he meant by this statement. I told him that I had talked to him on Monday and asked him for permission to get the key and to bring the truck on the ground. He said that I had never asked to bring the truck on the ground. He thought I only wanted to come out in the pasture with my vehicle. I told him that this was rather absurd, since we were sitting by the drill rig, and that I had talked to him about the pasture being wet and not wanting to bring the drill rig on when the soil was so wet since this would leave large ruts. I said that I had been looking out for his well being and also ours in order to get at the location drill holes that we needed to drill. I saw that the conversation was leading to nowhere and was only making me more angry. I told Mr. Hale that I would rather not talk about it, and that, if he asked, we would leave

his ground at that time. He said, "No, go ahead and finish your hole and whatever work you have to do, but don't ask permission to come on my ground again. You're just like the Williams guy aren't you. You're all the same. You leave me holding the bag while you get everything and uh, uh, everything you gain; I lose everything. All I get to do is buy some hay to make up for the knocked down grass with you crossing my ground. (pause) I ought to charge you for at least seven tons of hay. (pause) Uh, uh, is that Briscoe guy in the office today?" I answered, "I don't believe he is in, but you could try if you like." Mr. Hale, "I thought it only fair to ream out the hole down there by the fence. It'd only take an hour or so at the very most and seems it would only be fair for you going across my ground and the loss of hay. (pause)" "Like you pat me on the back and so forth," I said. "Yeah," he said, "besides it costs a whole lot of money to bring roads in from over there (pointing in a northwest direction toward the road)."

Since things seemed to be getting out of hand, I decided it was time to try to give a rebuttal to all the points that Mr. Hale was saying. I told him that I was very sorry, and, if there was a misunderstanding on either my part or his, that I regretted that this misunderstanding came about. I told him that we had tried to stay to the roads and, as he could see, we had done a fairly decent job of this. I told him that I understood that some of the grass was knocked down and that I saw it, and that I did not think it was that major of a problem. I told him that we could not drill or ream the drill hole out that he wanted reamed out due to the fact that we had contractual agreements with both our clients and the drilling company to only drill a certain footage. These contracts were worked out long in advance to our asking permission to cross his ground. I also mentioned that he would need both permission from the Forest Service and the Arizona Water Commission to drill a hole and use it as a water well. He came back that it would only take an hour for him to get this permission. I followed saying, "Good luck." Being that Mr. Hale was still upset, I told him that I had waited until the last day to cross his ground in order that we not tear up the ground anymore than it was necessary, due to the rain of the Saturday prior. The ground had already dried out and very little damage occurred due to the truck tires digging into the soft earth. I also told Mr. Hale that we had not encountered any water in any of the drill holes prior to this time to 100 feet and that the area seemed to be very dry.

Over this period of time, Mr. Hale seemed to calm down quite a bit. Being more rational of thought myself, I told him we appreciated his allowing us to cross his ground and that I was sorry if we had done any damage to his grass. He stated that unless it rained shortly, the grass would be permanently damaged this year, and that he felt he should have to charge us for that. I told him to write a letter to Mr. Briscoe to that affect, and we would see how we would handle this. He then asked how many more holes we

would be drilling off of his ranch, and I told him that we had all ready checked out two other holes and had determined that we could not reach them. He asked then if we would be leaving after we finished drilling the hole that we were on. I gave an affirmative answer. He then stated that both Kerr McGee and ASARCO people had stated that we overclaimed some of their ground. I told him that I was well aware that our claims met or were partially overstaked over some of their ground. Some of our stakes are possibly even on your ground," I said, "but these are not discovery posts, and, by law, we have the right to place these posts on the ground." He said that he would take the posts down or do away with them. I said that this was fine as long as they were on his ground, but, to our knowledge, all discovery posts were located off his ground and it was against the law to remove any discovery posts. He then mentioned that he had the mineral rights to all the ground that he owned and that he did not want us on his ground. He stated that if he caught us out there again with another vehicle, he would shoot us. I said, "Now, now, Mr. Hale, you know you wouldn't do that." He said, "Well, oh well, you know what I mean." Mr. Hale then asked for the keys which I still had possession of and I gave them back to him with the understanding that he would leave the gate unlocked. We left Mr. Hale's ground at approximately 12:30 p.m., July 29, 1977, to finish our location drill hole work at Drill Hole #14.

It is my feeling that Mr. Hale was much belabored by our non-willingness to ream out his drill hole. He feels some compensation should have been granted for his allowing us access across his ground. I had felt, up to the period of Friday morning at 10:00 a.m., that everything had been worked out; yet, it is my belief now that a paper should have been signed allowing us to cross his ground. It is also my belief that if such a paper was presented to Mr. Hale, that he would never have signed it. If further work in the area, we may have to deal with this problem. I have suggested to Mr. Hale that we could put drill roads around the perimeter of his property boundary and this would much decrease the value and the land cover in the area. I assured him that I did not want to do this, but, if he made us, we would. It is my feeling that if he continues to be a problem, we will have to give him a chance to see how we operate and put such roads in. The only other method of getting around this problem would probably be to ream out the hole that he desires to have reamed out and to install the casing within. At this time I feel Mr. Hale would be more conducive to the idea of us crossing his ground, and would not be such a bad person to get along with, if we reamed out the hole.

TEW/md  
0068

FILE MEMO

Tom

Project 134

Date: August 9, 1977

From: Thomas E. Waldrip, Jr.

Re: Access to Proposed Location Drill Hole #12 at the Western End of Goldbaum Canyon, Hardshell Mining Area, Santa Cruz Co., Arizona

During drilling of all our location drill holes on the H.A.R. lode mining claim group, we investigated the possibility of placing Location Drill Hole #12 at the western end of Goldbaum Canyon. Rick Persling and myself drove up the canyon on Thursday, July 28, and investigated the possibility of taking the drill rig past several critical areas on a very narrow road. Due to the fact that the road was very narrow and right next to a large crevice, or eroded wash, and that trees presented a problem on the other side of the road, it was determined by Rick and myself that we would not be able to drill Location Drill Hole #12. Thus, not being able to reach the area, two blocks of ground were not validated by Location Drill Holes. Upon conversation with Jim Briscoe on the morning of July 29, 1977, it was determined that these two blocks of ground would be allowed to ride for the time being. We would restake or repaper these claims and wait until after September 1 to do the validation drilling in the area.

To date then, 11 drill holes were drilled for validation work validating 82 claims. This leaves 20 mining claims of the H.A.R. group to be validated after September 1 and prior to November 10 when the present claim papers will expire.

TEWmd  
0070

MEMO

To: File for P-134, also under Drilling, Down the Hole Hammer, Reverse Circulation.

From: JAB

Date: 7/28/77

Subject: Project 134 - Drilling performed by Drilling Services, Inc., Tempe, Location drill work HAR claim group, Patagonia Mountains, Santa Cruz County, Arizona

Drilling Services Inc. was engaged to perform validation drilling for the HAR claim group. The contract called for an expenditure of \$10,000 to validate 100 lode mining claims with the services charged at an hourly rate of not to exceed \$10 per foot for the requisite 100 feet of drilling, including mobilization/demobilization.

The equipment consisted of a Smith Inc. Portadrill using reverse circulation drill tools. In reverse circulation drilling, a double wall drill pipe is used. The drilling medium, in this case air, is injected between the inner and outer walls of the drill pipe. It then returns up the inside of the drill pipe along with cuttings from the drill bit. In this way the sample is not mixed with rock eroded from the walls of the drill hole as is the case with conventional drilling techniques. Since all of the drilling fluid is contained within the annulus or the center of the drill pipe except when it is circulated around the drill bit, loss of circulation problems are almost completely eliminated.

The equipment used by Drilling Services, Inc. appears to be in very good condition. They had just completed drilling a hole for Asarco on the Shell claims in which they were able to penetrate deeper than any other drilling company engaged so far on that property without loss of circulation problems (verbal communication Rich Bursling, driller). On the Asarco job the formation was typically and intensely silicified rock requiring the use of hammer drill for all the footage drilled.

Observation of drilling and handling techniques on our drill holes appeared to verify the outstanding capability of the reverse circulation method. However, the sampling equipment used on the drill rig--which consists of a Cyclone and 8 tiered Jones splinters(?)--leaves much to be desired when compared with the sampling-splitting equipment used by Venture Drilling Company on their rigs. The Cyclone used by Drilling Services is relatively small and resport air is vented from the top of the Cyclone without filtration so that some fine material is lost from the sample. No neumatic ghumpers are present on the Cyclone, as contracted with the Venture Drilling Company's Cyclonic sampler. As a result fine material in the sample tends to cling to the side of the Cyclone. This must be loosened periodically by beating on the side of the Cyclone with a hammer. If the Cyclone is not hammered at the end of each drilling

run then material from the succeeding drill interval is admixed with material from the preceding interval. Coupled with the loss of fine material, this could be a source of significant sampling error with this equipment. Further complicating the sampling procedure, there is no suitable equipment for splitting the sample from a wet hole.

Drilling rate with the reverse circulation drill appears to be very rapid. Drilling time, including set up and tear down, on one 100 foot hole approximated 2½ hours so that the penetration rate was almost 50 feet per hour. The formation in this case was well consolidated gila conglomerate. This is the same formation as was drilled by the Venture Drilling Company in 1975 at Heady-Ashburn with approximately the same penetration rate. I asked the driller, Rich Bursling, whether this equipment had the capability of drilling in very soft, muddy formations, with our possible Roach Lake drilling project in mind. He told me that he had just come off a project for Fooge Mineral Corporation past Silver Peak, Nevada. There they had drilled 28,000 feet in holes varying between 400 and 1,000 feet in depth, but mostly in the 900 to 1,000 foot range. Fooge Mineral was evaluating basalt brines in Silver Lake and had extreme difficulties in getting holes through the very soft clay salt and gravel beds without circulation loss and caving problems. On their first hole Drilling Services set up on an abandoned hole in which a conventional drilling set up had lost circulation at 45 feet and had been unable to regain it. They completed that hole to a depth of 500 feet in one shift with no loss of circulation problems. In this project a drag type of bit was used with tungsten carbide inserts. One bit (which I examined personally, as they still had it on the drilling rig) was used to complete the entire 28,000 foot program. The bit did not show any noticeable wear. The sample was extruded from the drill strain (?) in long strings of clay material except where gravel and sand were encountered. All drilling was done with air or air and water injection circulation. No detergents were used, thus giving Fooge Mineral an excellent sample. No loss of circulation problems were encountered. Since air circulation was used, some problem occurred when mechanical or other reasons caused loss of air pressure. Air would escape then through the annulus of the drill pipe forcing cuttings up into the drill pipe because of the re-pressure release. It is thus concluded that Drilling Services would be a good contractor to handle the Roach Lake drilling if it, indeed, does come to fruition.

It is concluded that the reverse circulation technique and the equipment used by Drilling Services, Inc. results in the collection of a clean, uncontaminated sample. Their sampling equipment, particularly when compared with that used by Venture Drilling, is less sophisticated and tends to degrade the otherwise excellent sample capabilities of the rig. Of particular importance are the loss of fine material from the top of the Cyclone, and possible contamination through material hanging up within the Cyclone between sample runs. Because of these problems, Venture Drilling Company

probably returns a more accurate sample in the can than does Drilling Services. However, if Drilling Services would upgrade the caliber of their sampling devices, their sample would then be superior to that of Venture since sidehole caving and admixture of the sample where the eroded particles from the sidewalls of the hole would be eliminated. Drilling Services should probably be a prime candidate for doing drilling in unconsolidated rock or very soft rock that might be encountered in lakebed sediments.

See photos attached with this memo.

M0065

DRILLING SERVICES INC.

1521 SOUTH INDIAN BEND ROAD  
SUITE 3  
TEMPE, ARIZONA 85281  
TELEPHONE (602) 968-2414

OFFER OF DRILLING SERVICES

TO: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

DATE: June 14, 1977

(Hereinafter referred to as client)

QUOTATION NO. 784A

FOR THE ATTENTION  
OF: \_\_\_\_\_

Mr. Jim A. Briscoe

DRILLING SERVICES TO BE PERFORMED BY:

Drilling Services Inc.

(Hereinafter referred to as contractor)

A. GENERAL INFORMATION:

The contractor will undertake the work herein on a contract basis subject always to the terms, conditions, provisions and information contained herein:

1. Location of Work:

In the vicinity of Patagonia, Arizona.

2. Formation:

Gila type formation (soft & weathered) with hardrock below.

3. Proposed Method of Drilling and Sampling:

The reverse circulation rotary method (RCR) will be employed using double wall drill pipe, full bore tricone and/or insert bits and reverse circulation air/water flow to drill and sample the formation. A continuous sample of the geologic formation will be recovered up through the center of the double wall drill pipe and the sample will be discharged at the surface via a cyclone directly into a three tiered Jones type splitter. Should it be necessary and/or desirable to drill the hard formations with a down the hole hammer drill, the double wall drill pipe, interchange sub and down the hole hammer drill configuration would be utilized.

4. Hole Size, Angle, and Maximum Depth:

Holes shall be a minimum of 4 7/8" diameter, drilled vertically to a maximum depth of 500 feet.

5. Scope of Work and Drilling Requirements:

It is estimated that this drilling program would be for a total of 13 holes ~~XXXXX~~  
~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ for an estimated total footage of 1000 feet.

After setting of the blowout preventer and/or surface casing, drilling would proceed to provide sample from each 5 foot interval.



THE CONTRACTOR PROMISES AND AGREES:

1. To furnish equipment as per Schedule "A" attached.
2. To furnish personnel as per Schedule "B" attached.
3. To provide a board and room allowance for contractor furnished personnel.
4. To provide parts, supplies, materials, fuels and lubricants pertinent to the efficient performance of this undertaking, excepting casing, cement, rotary, diamond and down the hole hammer bits.
5. To procure, at the request of client's representative, such additional supplies, materials, personnel and equipment as may be necessary for the efficient operation and completion of the drilling assignment. Compensation for the procurement of such additional supplies, materials, personnel and equipment shall be at the rates set forth in Schedule "C" attached.
6. To leave the drill site free of all debris resulting from the work performed by the contractor (excepting drill cuttings).
7. To conduct all operations hereunder in full compliance of all rules and regulations adopted by any government agency whether Federal, State, City or Municipal.
8. To prepare a daily drill log summarizing in detail the days activities including consumable and chargeable items, One copy of the daily drill log will be provided to the client's representative.
9. To carry, at all times while conducting operations hereunder, the following insurance:
  - a. Workmen's Compensation Insurance to comply with applicable Federal and State Compensation laws.
  - b. General Public Liability Insurance with bodily injury of \$ 250,000.00 for any one person, \$ 500,000.00 for any one accident and property damage limit of \$ 50,000.00 for any one accident.
10. To operate the contractor's equipment on a single shift basis up to 10 hours per day, 5 days per week. Actual field work time would be dependent upon time consumed in daily travel to and from place of accommodation and the job site.
11. To commence drilling operations within 14 days after receipt of award and to diligently continue the work until it is completed or until the assignment is terminated as hereinafter provided.
12. To render an invoice for services performed within five (5) days after the 15th and the end of the month or alternately within ten (10) days of the conclusion or termination of the assignment if such assignment is commenced and concluded within a calendar month.

C. CLIENT OBLIGATIONS:

1. That prior to the commencement of drilling at the site named herein, the client shall have determined and marked the locations of the bore holes and shall have made provision for right-of-way, access and suitable drill sites. The client shall procure all entry permits and hold harmless the contractor for claims of trespass or damage to private property required in carrying out the work contemplated by the client hereunder, except where contractor is negligent or has violated the client's specific written instructions. The client will provide towing assistance as may be required.
2. The client shall be responsible for all underground utilities, the plugging of bore holes and the refurbishing of the ground surface as may be required.
3. The client shall be responsible for the handling, transporting and safekeeping of the geological samples and will provide all sample bags and/or containers for the storage of the samples.
4. That should it direct, in writing, the contractor to furnish supplies, materials, personnel and equipment other than those items specifically furnished by contractor in Schedules "A" & "B" of this quotation, the client will reimburse contractor for those items as detailed in Schedule "C" attached.



5. Client agrees to pay contractor for the mobilization and demobilization of personnel and equipment, for services provided and for materials supplied at the rates as detailed in Schedule "C" herein within 15 days after the receipt of the contractor's invoice.



OTHER SPECIAL CONSIDERATIONS:

1. Contractor's invoices for services provided are net, due and payable upon receipt. Invoices unpaid thirty (30) days after date of invoice will be subject to a delinquency charge of 1 percent per month (12 percent per annum).
2. All the information and data obtained by reason of, or in connection with, the work shall be the exclusive property of the client. The contractor will keep all such information and data strictly confidential and will not divulge or use, or permit its employees to divulge or use any information or data so obtained.
3. All risk and damage to contractor's tools, machinery, appliances or equipment shall be at all times borne and assumed by the contractor unless client expressly agrees to reimburse contractor for such loss or damage.
4. It is specifically understood that the contractor is not the agent of the client and is not authorized to act for or on behalf of the client or to bind the client in any manner whatsoever, and that this agreement shall never be construed as creating a joint venture or other relationship whereby either party hereto shall be held for the acts either of omission or commission of the other party hereunder.
5. That neither party to this agreement shall be liable for any loss or damage caused by reason of strikes, accidents, acts of God, action of the elements, or of any other causes beyond its control.
6. That this assignment is based upon contractor performing this assignment under a non-union operation. Should local unions require contractor or its employees to join their local union against contractor's will, this agreement shall terminate and shall be open for renegotiation.
7. This agreement shall continue in force until the drilling assignment is completed or until cancelled by either party hereto, such cancellation to be effected by giving written notice (by mail, or telegram) to the other party at the addresses given herein not less than 3 calendar days prior to date of termination: PROVIDED HOWEVER, upon the breach of any substantial provision of this agreement, the party not guilty of such breach, may if it elects, cancel this agreement without the written notice provided for above. In the event of termination under this provision, the client shall compensate contractor in accordance with the schedule of compensation as detailed in Schedule "C" herein.
8. This agreement will be governed by and construed in accordance with the laws of the State of Arizona.
9. This quotation is valid for acceptance through June 20, 1977. After June 20, 1977 the honoring of this quotation will be subject to availability of equipment and will, therefore, be subject to the contractor's review.

DRILLING SERVICES INC.

O. Manchak  
 O. Manchak  
 General Manager

QUOTATION ACCEPTED THIS

23 DAY OF June 1977

BY James A. Briscoe

James A. Briscoe, Agent for Texas  
 Gas Exploration Corporation, P.O.  
 Box 52310, Houston, Texas 77052



SCHEDULE "C"  
Compensation Schedule

1. Mobilization and Demobilization:

For the supplying of equipment and the furnishing of personnel as per schedules "A" and "B" at the lump sum price of \$1,250.00.

2. Drilling Services:

Job site services which will include rigging up and down, setting and pulling the blowout preventer and/or surface casing, drilling, moving between bore holes will be provided at a hourly rate. For all such hours consumed at the job site, commencing and ending with the shift in the field, client will be invoiced at \$115.00 per hour. Additionally, contractor guarantees that job site services, ~~XXXXXXXXXXXXXXXXXXXX~~ ~~XXXXXX~~ for a 1000 ft. drill program will not exceed \$10.00 per ft and/or \$10,000.00.

ATB  
em

3. Breakdown and Servicing Equipment Time:

No charges for down time would apply for the time consumed servicing and/or repairing contractor supplied equipment.

Compensation For Lost Pipe, Drill Tools, Extracting Stuck or Broken Drill Pipe, Drill Tools, Etc:

No compensation will be due the contractor for drill pipe and drill tools lost and or abandoned during the course of this drilling assignment. However, the hours consumed in the recovery and/or attempted recovery of drill pipe and drill tools, on any one bore hole, would be chargeable at an hourly rate of \$85.00. The maximum hours chargeable on any one bore hole would be limited to 8 hours.

5. Daily Travel Time:

Daily travel from the nearest source of accommodation to the job site and return is included in all of the plans in Schedule "C". However, should driving time exceed one hour per day by circumstances beyond the control of the contractor such excess time would be chargeable at the rate of \$35.00 per hour.

6. Standby Time:

Hours consumed on a standby basis, at the convenience and/or request of the client, will be chargeable at the following rates:

- a. With full crew @ \$85.00 per hour
- b. Without full crew @ \$55.00 per hour (provided the drilling supervisor and/or crew driller is notified at least 8 hours in advance that standby is required.)

All standby charges, per shift, will be limited to a maximum of 8 hours per day and 40 hours per week.

7. Providing Drill Bits, Additional Supplies, Equipment, Personnel, Etc:

The contractor will, at the request of the client, provide drill bits, cement, supplies, equipment etc. and engage sub contractors and provide such additional services as may be required at contractor's invoice cost plus 15% handling.



SCHEDULE "A"  
Schedule of Equipment To Be Supplied

<u>ITEM</u>	<u>QTY.</u>	
1.	1	1975 Cyclone Model TH60 drill unit mounted on a diesel powered carrier. The drill unit is equipped with a LeRoi air compressor (256S2) delivering 560 CFM @ 250 PSI, reverse circulation system for drilling with dual tube drill pipe and hydraulically controlled water injection system.
2.	500'	Feet of 4½" O.D. x 2½" I.D. dual tube drill pipe.
3.	1	Pickup truck.
4.	1	Cyclone assembly c/w discharge hose and sample collecting tubs.
5.		Drill bit subs and adapters for tricone drilling up to a hole diameter of 5 1/4".
6.	1	1974 combination pipe, service and water truck.
7.	1	Three tiered Jones type sample splitter.
8.	1	Mission hammer drill c/w interchange sub.

SCHEDULE "B"  
Schedule Of Personnel To Be Furnished

(1) Driller

(1) Driller's Assistant





# Certificate of Insurance

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT RENEW, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

NAME AND ADDRESS OF AGENCY

WALSH, GRAY, MOORE & ALBERT, INC.  
10 Guaranty Bank Bldg.  
Denver, Colorado 80222

### COMPANIES AFFORDING COVERAGES

COMPANY LETTER	<b>A</b>	Hartford Insurance Group
COMPANY LETTER	<b>B</b>	Aetna Casualty & Surety Co.
COMPANY LETTER	<b>C</b>	
COMPANY LETTER	<b>D</b>	
COMPANY LETTER	<b>E</b>	

NAME AND ADDRESS OF INSURED

Drilling Services, Inc.  
521 Indian Bend Road  
Tempe, Arizona 85281

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	POLICY EXPIRATION DATE	Limits of Liability in Thousands (000)		
					EACH OCCURRENCE	AGGREGATE
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMPREHENSIVE FORM <input checked="" type="checkbox"/> PREMISES—OPERATIONS <input checked="" type="checkbox"/> EXPLOSION AND COLLAPSE HAZARD <input checked="" type="checkbox"/> UNDERGROUND HAZARD <input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD <input checked="" type="checkbox"/> CONTRACTUAL INSURANCE <input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE <input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS <input checked="" type="checkbox"/> PERSONAL INJURY <input checked="" type="checkbox"/>	34C701801	4/22/78	BODILY INJURY	\$	\$ *
				PROPERTY DAMAGE	\$	\$
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 500	\$ 500
				*Applies to Products/Completed Operations Hazard.		
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> COMPREHENSIVE FORM <input checked="" type="checkbox"/> OWNED <input checked="" type="checkbox"/> HIRED <input checked="" type="checkbox"/> NON-OWNED	34C701801	4/22/78	BODILY INJURY (EACH PERSON)	\$	
				BODILY INJURY (EACH OCCURRENCE)	\$	
				PROPERTY DAMAGE	\$	
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 500	
B	<b>EXCESS LIABILITY</b> <input checked="" type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM	BINDER	4/22/78	BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 1,000	\$
A	<b>WORKERS' COMPENSATION and EMPLOYERS' LIABILITY</b>	34WE700547	4/30/78	STATUTORY	\$ 100	(EACH ACCIDENT)
	<b>OTHER</b> Blanket Contractor's Equipment Broad Form	341C722171	4/22/78	Blanket Coverage		

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES

CORE DRILLING - All States

**Cancellation:** Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 10 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

NAME AND ADDRESS OF CERTIFICATE HOLDER:

South Western Exploration Associate  
6783 Camino Principal  
Tucson, Arizona 85715

DATE ISSUED: 6/27/77

*Peter D. Gray*  
AUTHORIZED REPRESENTATIVE  
Walsh, Gray, Moore & Albert, Inc.

Tom

MEMO

To: James A. Briscoe

From: Tom Waldrip, Jr.

Date: 7/25/77

Re: Work on Location Drill Holes for the H.A.R. Group of Mining Claims, Project-134, Harshaw, Arizona

July 25, 1977

Left office at 6:30 am and traveled to Patagonia, Arizona, via Sonoita. Arrived at 8:00 am to meet Rick Persling (the driller) for Drilling Services Inc. We then unpacked and they went to load pipe for the drilling operation. We met again at Mr. Coons house and watched as they loaded drill pipe and the Cyclone. During this time, it was learned that the previous hole drilled for ASARCO had a total depth of 713 feet. They encountered soft manganese replaced rock at about 350 feet. It was my understanding that the upper part of the hole was generally in clay and conglomerate, although in this same area some intrusive rock should have been present. At about 450 to 500', drilling became very hard, with one shift only attaining 45' (I think Rick said) for 12 hours work (silicified zone with much quartz). Apparently the last 100 feet, or so, were in limestone interbedded or veined with manganese replaced lime. A minor grab sample was scavenged and saved from the Cyclone while it was being cleaned. The major portion of the rock chip in this sample is dark black in color, being composed primarily of manganese oxides, replacing a crystalline (recrystallized?) limestone or marble. A minor portion of the rock chip may represent rock of an intrusive or extrusive nature, but this has not been fully determined to date, due to replacement of this rock by manganese oxides.

Rick, Bill and myself then went to see the sights, taking about  $\frac{1}{2}$  hour, while his helpers finished loading and getting gas and water. We then drove back to Patagonia to pick up the rig and to move it on site.

We were set up on L.D.H. #1 by 11:15 am and then started to drill this 20 foot hole shortly afterwards. At 11:45 pm, several lightning strikes, near the mast, necessitated shutting the rig down for a period of  $\frac{1}{2}$  hour to allow the thunder cloud to pass over the area. Drilling again started at 12:15 pm and by 12:30 pm we had moved to L.D.H. #2.

Since only 20 feet was drilled on L.D. Hole #1, little was seen as far as geology goes, but we did break into bed rock 5-7 feet below the surface. Bed rock of the area was of a highly weathered andesite, in many zones being completely broken down into clay. At 20 feet we started to encounter fragments of a bright yellowish green mineral--epidote in color--yet having a

luster and hardness not unlike that of quartz, which I am assuming it was or, at least, in the silicate family of minerals.

Drill Hole #2 was started by 12:45 pm taking 5 minutes longer than one hour to drill and be torn down ready to move to site #3. Thus in all, we set up, drilled 40 feet, and tore down and moved to the next hole all in a period of 1.5 hours. This came near our average footage rate during the project of 27 feet per hour, including moves, set ups and tear downs, or about 40 feet per hour of actual drilling time.

Rock encountered in Drill Hole No. 2 was of the same general nature as that found in Drill Hole No. 1, except more reddish, clay-like material was encountered in this hole.

We then moved off the second drill hole and moved to Hole #3, being set up and ready to drill by 2:30. At this time, a seal gave out on the main cylinder leading from the hydraulic motor to the pump, causing a shower of hydraulic oil over the area. This caused a shutdown of over one hour for repairs and replacement of the seal. At 3:45 pm, drilling was again in progress. We then worked until 5:00 pm, when we ran out of water and shut down the rig.

At this time, Mr. Hale drove up inquiring about our progress and how things were coming along. I told him "everything was coming along fine except for minor mechanical problems." etc.-- see memo concerning Norman Hale and difficulties with him as related to access to our drill hole locations.

The next morning, July 26, 1977, we started drilling at 8:00 am sharp, finishing the 45 feet of drilling left in Drill Hole #3 by 9:10. We then proceeded to remove the drilling rods from the hole. Shortly before getting all the rods out, the seal on the master cylinder gave out again sending another 10 gallons of hydraulic oil over the area. I gave permission to shut down the rig at 9:30 am in order to get a new pump down to the area from Denver and to get a water truck from Tucson. It was my understanding that all down time was on Drilling Services Inc., and that we would again be drilling by the next morning, if everything went well. Bill and I waited until about 12:30 pm to make sure that the parts would arrive by the next morning, and so we could then determine what to do.

Drill Hole #3 encountered about 5 feet of overburden, then proceeded into highly weathered and fractured andesite and clay-like horizons being predominantly red in color, although the last 5 foot sample indicated we were going into a lighter, grayish-white clay horizon of an undetermined origin. Again, a bluish-yellowish-green mineral, of high luster and uneven to conchoidal fracture and a quartz or below hardness, was encountered in sample fragments. Most of these fragments are found as either

phenocrysts or as vesicular fillings and are anhedral in nature, within larger fragments of less altered andesite.

During the rest of the afternoon of July 26th, Bill and I finished posting and repapering 20 claims in the southwest portion of the claim block. These claims were inaccessible to the drill rig without drill road construction. (Note: As of this date, August 9, 1977, permits still have not been granted to us for drill road construction into these areas.) These claims are now valid until November 10, 1977, by which time location holes will have to be drilled.

As of 9:00 pm on the 26th, the part had not been shipped by air freight from Denver, and, thus, we would not be drilling again until 2:00 pm at the earliest on Wednesday the 27th.

Wednesday, July 27, 1977

We put in 4 claims around the edges of Norman Hales patented Agricultural Homestead ground. Shortly before noon, the Van failed to start, and we then waited at the site until 2:30 pm for the drillers to arrive. From 2:30 pm to 3:30 pm work proceeded on installing the new hydraulic pump, and we were back to drilling on Location Drill Hole #13 by 3:30 pm. On this hole, 4 fence posts were removed, with the fence being layed on the ground as the drill truck backed over it. The metal posts were then hammered back into the ground, leaving the fence in as good a condition as it was when we entered the area.

Geologic information from the hole was meagre since only 20 feet were drilled, but we did encounter the down-dip portion of the outcropping tuff at about 10 feet. This same tuff outcrops about 30 feet northeast of the drill hole and contains minor dendritic manganese patterns on bedding planes or scattered at random throughout the unit. These same patterns were encountered in drill sample cuttings. Most of the bed rock encountered in this hole, however, was highly weathered, leading to a devitrified mass of clay and minute particles of quartz.

We started drilling Drill Hole #4 at about 5:15 pm and finished 60 feet of drilling. We were back to the road with the rig by 6:30 pm. At this time, we set up the rig on Location Drill Hole No. 5, terminating work about 7:00 pm. From this time until 8:30 pm, the drillers helped pull the Van back to Patagonia to be worked on. This time was at no charge to us and was greatly appreciated by all concerned.

Since Drill Hole No. 4 was collared in a limestone area, limestone was encountered within 15 feet of the surface. The limestone was very friable with the cutting being blocky to angular. This could have been caused by the nature of deposition or

by weathering processes encountered in the area. Minor areas (zones) of dendritic Mn and siliceous material, generally of chalcedonic or agate nature, are of syngenetic origin in the enclosing fresh water(?) limestone. These siliceous pods seem to occupy zones along bedding planes and are elongated parallel to them in most cases, as observed in outcrop. The full section of limestone was not penetrated in the area, so it was not determined what geologic units lie below the limestone; but it is my feeling that both the tuff unit and andesite may lie below, as fragments of these materials are included in the outcropping limestone.

Thursday, July 28, 1977

We arrived at the drill hole at 8:00 am sharp. We started work on Drill Hole #5 shortly after 8:00 am. (Note: we had set up on this hole the previous day, see Wednesday, July 27, 1977.) By 10:45 am, we had finished Drill Hole #5 to a depth of 100 feet and were proceeding on the road to Drill Hole #6.

We were set up and started drilling on Location Drill Hole #6 by 11:00 am. By 1:15 pm we had penetrated to 100 feet, our total depth for this hole. Shortly after 1:15 pm, we were on the road again moving to Location Drill Hole #8.

By 1:45 pm, we were set up and in the process of drilling Location Drill Hole #8. Several feet below the surface we encountered Gila Conglomerate and were in this formation to the total depth of the hole of 100 feet. Shortly after 2:00 pm, the seal on the hydraulic pump went out again, and repairs were being made from 2:00 - 3:00 pm. During this time, James A. Briscoe and Bill McClelland arrived at the drill site. Bill had waited in town to get the Van repaired, and Jim came down from Tucson to see how drilling was coming along. I told Jim everything was coming along fine, as far as the drilling was concerned, but the hydraulic seal on the pump had been giving us quite a problem. It will be noted that up to this time, this particular seal had gone out three times. Jim left the drill site shortly after repair to the seal was finished at 3:00 pm. He took the Van back to Tucson and left us the Blazer.

During the period from 2-3 pm, I went to get the key from Mr. Hale, but he was not at home at this time, so I got the key from his wife. (A further discussion of the problems encountered with Mr. Hale are presented in a memo to accompany this drilling report.)

We finished Location Drill Hole #8 and moved from Corral Canyon, where Drill Hole #8 is located, back up to Goldbaum Canyon where Mr. Hale's patented homestead ground lies. We arrived at the entrance gate to Mr. Hale's ground at approximately 4:30 pm. Prior to taking the drill rig across Mr. Hale's ground, I drove Rick Persling through the ranch area along the roads leading to

the drill holes expected to be drilled in the area. We first visited Location Drill Hole #10 and from there proceeded to Drill Hole #12. We then retraced our route up Goldbaum Canyon to the east to where we could cross the wash and proceed to the south to gain access to Drill Hole #7. After a short discussion with Rick it was determined that access into the area where Location Drill Hole #12 was located was very dangerous, and he felt at that time that he did not want to try to negotiate the narrow road and various other obstructions in the area. Thus, Drill Hole #12 would not be drilled. By 6:00 pm, we had returned to the drill rig and had moved across Mr. Hale's ground to Location Drill Hole #10.

From 6:00 pm to approximately 7:15 pm, we worked on drilling Location Drill Hole #10. During this one hour and 15 minute period, we were able to drill a 100 foot hole, making our best footage rate of the entire drilling project. This had been quite a day! We made three moves, set up three times, tore down three times, made a one hour repair, drilled 400 feet, and set three five foot pieces of surface casing, all in an eleven hour day-- that is hustling!

Geologically speaking, all footages drilled (Location Drill Holes Numbers 5, 6, and 10) were in conglomerates of Recent age alternating with horizons of a mixed clay and conglomerate nature. The clays presented quite a problem to our reverse circulation system, so, in order to keep the system open, water was injected into the air system. This worked well as exhibited by footage made during the day. The sediments were composed of every known rock type in the area, except for the tuff and Tertiary limestone encountered to the north and east of our claim block. Predominant compositional rock types of the conglomerates encountered in Location Drill Holes #5, 6, and 10 were generally of intrusive or volcanic nature with andesite predominant over rhyolite(?) and Mesozoic limestones and sedimentary formations. It will be noted that only a few rock chips showed any porphyritic texture.

Location Drill Hole #8 was collared in shallow soil overlying Gila Conglomerate and was in this unit for its total depth. This was the only hole drilled dry of all the eleven holes drilled on this project. The predominant rock type in the conglomerate was andesite which crops out approximately one mile northeast of this drill hole.

Friday, July 29, 1977

We occupied drill site No. 10 at 8:15 am and removed the final two drill rods and set surface casing to 7 feet. By 8:45 am we had torn down and were in the process of moving from Location Drill Hole #10 to Location Drill Hole #7.

By 9:00 am, we had retraced our route down Goldbaum Canyon to the east to a point where we could easily cross the wash and

then proceeded to Drill Hole #7. By 9:30 am, we were set up on Location Drill Hole #7 and drilling towards our final goal of 100 feet.

Shortly after 10:00 am, Mr. Hale arrived at the site angry because we had crossed his property--see memo on this subject. We pushed toward completion of the final 50 feet on this hole and then left his property. It had already been determined (the day before, see Thursday, July 29, 1977 under drilling operations) that we could not reach two other holes we wanted to drill off of Mr. Hale's property, due to the Forest Service's not having yet approved our plan of operations to doze a drill road into the area. The second hole was inaccessible because of the access road was dangerously close to a deeply eroded wash, with trees very close on the other side of the road. Since this area was on Mr. Hale's patented ground we did not want to disturb the area, knowing his present feelings. Therefore, this location drill hole #12 will have to be drilled at a later date, using a different access road into the area.

After leaving Mr. Hale's ranch ground we occupied alternate drill hole #14, to which I was able to gain permission to drill that very morning from Doug Sayers of the U.S. Forest Service. This location drill hole was drilled instead of location drill hole #11 which could not be drilled due to the Forest Service's nonapproval action on our plan of operation to doze an access road into the area. We started drilling on alternate location drill hole #14 at 12:00 pm and drilled until 1:45 pm, when again a seal went out on the hydraulic pump and repairs had to be made. These repairs were completed at 2:30 pm and we were back drilling again on our 100 foot location drill hole, finishing at approximately 3:30 pm. During the period of repairs another load of water was acquired, thus causing no chargeable down time during the drilling operation.

This drill hole was the last hole, in which we could gain access to various claim block, so our drilling operations were completed. The rig was cleaned up and equipment loaded and we all returned with the rig to Patagonia. Chargeable time ended at approximately 4:15 pm on Friday, July 29, 1977.

Drill Hole #7 encountered Gila Conglomerate of the same variety as found in Drill Holes #5 and 6 (which see).

Drill Hole #14 was collared in Tertiary rhyolite tuff which was very devitrified leaving only clay and small anhedral quartz fragments. This altered tuff made drilling very difficult because of the tendency of the clay to plug the drill tools.

A used insert (drag) bit was tried on this formation with excellent results. Shortly after installing the insert bit, we drilled through the tuff unit into the underlying andesite

formation. The andesite was very broken up, leading me to believe the upper tuff unit lies unconformably on the andesite. As indicated by the amount of clay found in the andesite drill cuttings, the andesite surface had probably undergone extensive weathering prior to the deposition of the tuff. Further, I feel that a paleo soil surface was encountered at the base of the tuff unit, to approximately 5 feet into the underlying andesite unit. This clay unit was of a very dark red nature (showing characteristics similar to those found in present day soil surfaces in the humid and tropical areas of the world) suggesting that we are dealing with a paleo surface. This surface was probably very broken and open in nature and might have undergone weathering and argillization prior to deposition of the overlying tuff unit. Further work in the area will be needed in order to confirm or disprove this hypothesis.

7/25/77

P-134 Drilling

DRILLING SUMMARY

Contractor: Drilling Service Inc., Phoenix

Drill Type: Portadrill - 1975 Cyclone Model, TH 60 Drill--  
equipped with reverse circulation rods.

Drill Rods: Double walled pipe, 4½ in O.D. 2¼ in I.D. with Drilling  
fluids and air forced down outside pipe and cuttings  
returned to cyclone via inner pipe.

Sampling: Cyclone assembly with 3 tier Jones splitter. A 12.5%  
split caught in plastic wash buckets (to avoid contam-  
ination) with sample packed in 1 quart ice cream containers.

Sample Interval: 5 foot continuous sample surface to T.D. placed  
on core boards.

Bit Type: Tricone bit works generally well, except in clay.  
Hammer no good!! Insert drag bit, worked well in un-  
consolidated sediments, but could break up on large  
boulders.

Additives Used: Water injected into air in all holes to break up  
clay, except for Hole #8.

Drillers: Bill Melhorn, Part owner and supervisor  
Rick Persling, Driller  
Steve , Helper/mechanic  
Don , Helper

SEA Personnel on Site: Thomas E. Waldrip, Jr, Geologist  
Bill McClelland, Field Assistant

Total Number of Days on Job: 5

Total Chargeable Hours to-date by Drilling Company: 30.5

Total Footage Drilled: 830 feet

Average Time/Foot: 2.20 minutes (includes set up, tear down and  
travel between sites)

Average Feet/Hour: 27.2 feet (includes set up, tear down and  
travel between sites)

Total Direct Drilling Charges: \$4,357.50 (Drilling, mobe & demobe)

Average Charge/Foot: \$5.87/foot (including set up, tear down,  
travel between sites, mobe  
demobe, supplies, and water truck  
rental)

7/25/77

Project-134 Drilling

<u>Drill Hole</u>	<u>Total Depth</u>	<u>Rock Encountered</u>
#1	20 Feet	Weathered andesite
#2	40 Feet	Weathered andesite
#3	90 Feet	Weathered andesite
#4	60 Feet	Weathered limestone and chalcedony
#5	100 Feet	Unconsolidated Recent alluvium, mostly andesite fragments, surface cased
#6	100 Feet	Unconsolidated Recent alluvium, mostly andesite fragments, surface cased
#7	100 Feet	Unconsolidated Recent alluvium, mostly andesite fragments, surface cased
#8	100 Feet	Gila Conglomerate, mostly andesite fragments, surface casing
#9	Not Drilled	Plan of Operations not approved by U.S.F.S. - no access road in area of claim block
#10	100 Feet	Recent unconsolidated alluvial sediments, composed mainly of andesite fragments, surface cased
#11	Not Drilled	See Location Drill Hole #14
#12	Not Drilled	Dangerous access road into area of claim block
#13	20 Feet	Recent unconsolidated sediments devitrified tuff at bottom
#14	100 Feet	Alternate for #11. Upper 60 feet in devitrified tuff, lower 40 feet in weathered andesite, surface casing set.

TEW/md  
0067

23.11 \$500/hr  
 100% hr  
 WATER TANKLE \$25/day  
 27.16 14.95  
 12.00  
 HERSHAW LOCATION WORK DRILLING PROGRAM EXPENSE SHEETS  
 July 1977  
 PAGE (1)

DATE	DESCRIPTION	HOURS	LABOR SEA	TELEPHONE LOGGING FOOD	TRAVEL OFF ROAD AM. 20	D.S. Hourly Charge \$15/hr	FOOTAGE CHARGE (N/A)	STAND BY \$85.00	MATERIALS COST 15%	WATER TANKLE & Equip Rental	SEA'S DAILY TOTAL	Drilling Services Daily Total	Cumulative Total
25	Day Crew Footage 105ft	8.5				977.50							
25	Day Crew Hourly Supplies Day Crew												
25	WATER - Loads - Mileage												
25	SEA'S Geologist Labor	12.5	150.00										
25	SEA'S Assist. Geologist Labor	12.5	62.50										
25	Breakfast Stage Stop												
25	Lunch												
25	Dinner Stage Stop Bill & Tsm	0											
25	Telephone Calls			3.17									
25	Blazer Mileage	10.6		1.245	25.44								
25	OFF ROAD USE OF BLAZER				10.00								
25	MOTEL ROOM			1.870		850.00							
25	MOBILIZATION												
25	WODED, DISCOVER, POSTS 4x4 1.5-20				69.22								
25	Supplies, Sample Containers, Boxes, Pubs				57.91								
26	DAY CREW FOOTAGE										410.09	1827.50	2237.99
26	DAY CREW HOURLY	1.5				172.50							
26	SUPPLIES DAY CREW												
26	WATER - LOADS - MILEAGE								1.50				
26	SEA'S Geologist Labor	12.5	150.00										
26	SEA'S Assist. Geologist Labor	12.5	62.50										
26	Breakfast Stage Stop												
26	Lunch			4.87									
26	Dinner			4.22									
26	Telephone Calls			7.04									
26	Blazer Mileage	2		2.78	6.00								
26	OFF ROAD USE OF BLAZER				10.00								
26	MOTEL ROOM			15.90									
27	DAY CREW FOOTAGE 90 FT.										268.33	174.00	2001.50
27	DAY CREW HOURLY	4.0				460.00							
27	SUPPLIES DAY CREW												
27	WATER - LOADS - MILEAGE												
27	SEA'S Geologist Labor	12.5	150.00										
27	SEA'S Assist. Geologist Labor	12.5	62.50										
27	Breakfast												
27	Bill & Tsm												
GRAND TOTALS													2679.92

HARSHAW LOCATION WORK EXPENSE SHEET  
July 1977

PAGE-2

DATE 1977	Description	HOURS	Labor	Telephone Lodging Food	TRAVEL OFF ROAD MISC.	Drilling Service Inc. Hourly *15%/hr	Footage Charge (N-A)	Standby	MATERIALS LOST + 15%	WATER - TRUCK Equip Rental	SEA'S Daily Total	Drilling Services Daily Total	Drilling Services Cum Total	Cumulative Project Total
	CARRIED FORWARD TOTALS		637.50	82.57	178.57	2460.00	0	0	1.50	75.00				
7 27	Lunch	/		2.65										
7 27	Dinner	/		13.13										
7 27	Telephone Calls	1		5.54										
7 27	Blazer Milage	24			57.6									
7 27	OFF ROAD USE OF BLAZER	/			10.00									
7 27	MOTEL ROOM	/		18.90										
											276.20	535.00	2536.50	3491.12
7 28	DAY CREW FOOTAGE	400 ft												
7 28	DAY CREW HOURLY	10				1150.00								
7 28	SUPPLIES DAY CREW	X												
7 28	WATER - LOADS - MILEAGE	X								75.00				
7 28	SEA'S Geologist Labor	12.5	150.00											
7 28	SEA'S Assist. Geologist Labor	12.5	62.50											
7 28	Breakfast	/		7.42										
7 28	Lunch	/		5.34										
7 28	Dinner	/		9.20										
7 28	Telephone Calls	X												
7 28	Blazer Milage	90 + 101	191		45.84									
7 28	OFF ROAD USE OF BLAZER + VAN	/			20.00									
7 28	MOTEL ROOM	/		18.90										
											319.20	1225.00	3761.50	5035.32
7 29	DAY CREW FOOTAGE	200 ft												
7 29	DAY CREW HOURLY	8.5				977.50								
7 29	SUPPLIES DAY CREW	X												
7 29	WATER - LOADS - MILEAGE	X							1.50	75.00				
7 29	SEA'S Geologist Labor	12.5	150.00											
7 29	SEA'S Assist. Geologist Labor	12.5	62.50											
7 29	Breakfast	/		7.14										
7 29	Lunch	/		6.5										
7 29	Dinner	/		13.61										
7 29	Telephone Calls	2		3.21										
7 29	Blazer Milage	17 mi	17		4.08									
7 29	OFF ROAD USE OF BLAZER	/			10.00									
7 29	MOTEL ROOM	/		18.90										
											270.09	1054.00	4815.50	6359.41
	Page total to Date		1062.50	207.16	274.25	4587.50	0	0	3.00	225.00				

HARSHAW LOCATION DRILLING PROGRAM EXPENSE SHEET  
July-Aug 1977

1977	Description	Hours	LABOR SEA	Telephone Lodging Food	Travel OFF ROAD MISC.	DRILLING SERVICE INC. #15/HR	Footage NO-CHARGE	STANDBY	MATERIALS COST #15	WATER TRUCK RENTAL	SEA'S DAILY Total	DRILLING SERVICES DAILY TOTAL	DRILLING SEA Cum Total	Cum Proj Total
	CARRIED FORWARD			207.16	274.25	4587.50	0	0	300	225.00				
7 30	SEA GEOLOGIST LABOR	6.0	72.00											
7 30	SEA ASSIST GEOL LABOR	2.0	10.00											
7 30	SEA GEOLOGIST JIM LABOR	4.5	108.00											
7 30	BOXES TO PUT SAMPLES INTO	12			12.00									
7 30	CORE BOARDS 26 x 7" 00				182.00									
7 30	DRAFTING SUPPLIES - TAPES - FILMS				10.00									
7 30	BLAZER MILEAGE	22			528									
											399.28	0	4815.50	675869
8 1	SEA GEOLOGIST LABOR	8.5	102.00											
8 1	Filing Fees County Recorders				164.00									
8 1	Lunch & misc.				2.54									
8 1	MILEAGE BLAZER	163			39.12									
											307.66	0	4815.50	7066.35
8 2	SEA GEOL. LABOR (DRAFTING)	4.5	54.00											
8 2	BLM Filing Fees				410.00									
8 2	Postage				283									
											466.83	0	4815.50	7533.18
8 3	LABOR SEA (EXPENSES) 8-1-77	8.0	96.00											
	MOBIL TELEPHONE 7-28-77 7-29-77 3 days			102.9										
											106.29	0	4815.50	7639.47
			1504.50	217.45	1102.02	4587.50	0	0	300	225.00				
	MATERIALS													
	1-CAN D-D						1504.50			4587.50				
	1- 20 FT 5/4" CASING						217.45			228.00				
	1- tricone Bit 4 1/4 in						1102.02			4815.50				
	830 Ft. = 580/foot DRILLING COSTS						2823.97							
	3.40/foot SEA EXPENSES						4915.50							
	* 9.20 total cost.						7639.47							
	this includes filing costs & some repapering costs													
							TOTAL EXPENSES TO DATE							

THESE ARE VALID  
TO AUG 5<sup>TH</sup> 1977

TEW.

2823.97

4915.50

7639.47

TOTAL EXPENSES TO DATE

1504.50

217.45

1102.02

2823.97

7639.47

4587.50

228.00

4815.50

4815.50

4815.50

DRILLING SERVICE INC

SEA FILING & MATERIALS EXPENSES

HARSHAW LOCATION WORK DRILLING PROGRAM EXPENSE SHEETS  
AUGUST 1977

PAGE 4

DATE	Description	POURS	LABOR SEA	Telephone Lodging Food	Travel OFF ROAD misc.	D.S. Hourly Charge 1/5 <sup>00</sup> /hr	Footage Charge N-A	Standby 85 <sup>00</sup>	MATERIALS COST + 15%	WATER TRUCK Equip Rental	SEA'S DAILY Charge TBTAL	Drilling Services Daily Total	Drilling Services Cumulative Total	Cumulative Total
Aug 19	Carried Forward		1504 <sup>50</sup>	217 <sup>45</sup>	1102.02	4587 <sup>50</sup>	0	0	300	225 <sup>00</sup>	0		4815 <sup>50</sup>	7637 <sup>47</sup>
Aug 19	Adjustments of EXPENSES to date - as BY DRILLING SERVICES BILL OF 8-9-77				less 2 hrs	-230 <sup>00</sup>		less 1/2	WATER TRUCK to date	-112 <sup>50</sup>	less 2 Hourly =	-230 <sup>00</sup>		
7 30	WATER TRUCK - ONE ADDITIONAL DAY													
7 30	RENTAL									75 <sup>00</sup>		+ 75 <sup>00</sup>		
	less 1/2 of ABOVE									-37 <sup>50</sup>		- 37 <sup>50</sup>		
7 30	Insurance - GAS & TAX ON WATER TRUCK									38 <sup>74</sup>		+ 38 <sup>74</sup>		
7 30	less 1/2 of ABOVE									-19 <sup>37</sup>		- 19 <sup>37</sup>		
7 30	less 1/3 of WATER CHARGES							2 <sup>00</sup>	-1 <sup>00</sup>			- 1 <sup>00</sup>		
8 9	5gal of DD Soap					4357 <sup>50</sup>			54 <sup>88</sup>	147 <sup>37</sup>		+ 54 <sup>88</sup>		
8 9	1 4 1/4 Tricone Bit								143 <sup>97</sup>			+ 143 <sup>97</sup>		
8 9	15% Handling @ 200.85 x 15%								30 <sup>13</sup>			+ 30 <sup>13</sup>		
8 9	24 feet 5/4 CASING AT COST. (REPLACEMENT)								120 <sup>00</sup>			+ 120 <sup>00</sup>		
											TOTAL	+ 62 <sup>35</sup>		
	Totals AS OF AUG 19, 1977		1504 <sup>50</sup>	217 <sup>45</sup>	1102.02	4357 <sup>50</sup>	0	0	350 <sup>98</sup>	169 <sup>37</sup>		62 <sup>35</sup>	4877 <sup>85</sup>	7701 <sup>82</sup>





drilling services inc.

# DRILLERS DAILY DRILL REPORT

**DRILLING INFORMATION** Client: Southwestern Explorer Assoc Date 7/26 1977

AND

Drilling Location: PATAGONIA

Job No. 044

## DRILLING STATISTICS

EQUIPMENT EMPLOYED: UNIT NO. 404 UNIT NO. 206 UNIT NO. 02 UNIT NO. \_\_\_\_\_ AUX. UNIT \_\_\_\_\_

## DRILLERS ACCOUNTING OF DAILY PAYROLL & MAINTENANCE DATA

THE SHIFT STARTED: 7:30 TIME SHIFT ENDED 1:30 DAY SHIFT  NIGHT SHIFT

### PERSONNEL EMPLOYED

### DISTRIBUTION OF DAILY HOURS

EMPLOYEES NAMES	TOTAL HOURS	TRAVEL HOURS	DRILL HOURS	STANDBY HOURS	MAINT. HOURS	LUNCH HOURS	OTHER HOURS	DESCRIPTION OF OTHER WORK HOURS
DRILLER <u>R. PreFly</u>	<u>4 1/2</u>							
HELPER <u>S. Halbrook</u>	<u>6</u>							
OPER <u>D TEWAT</u>	<u>4 1/2</u>							

### BRIEF EXPLANATION OF MAINT. HRS. (give unit no. & hrs.)

### GENERAL REMARKS

8:00 To 9:30 drill 45' to B-Ham #3 develop Hydrostatic leak - Trip out + Rig down

9:30 To 10:30 make calls to Phyl - Don + Steve pull motor off weld pulk on gear Pump

10:30 To 12:00 drive to Tucson pickup water truck + D-D

12:00 to 1:30 DRILLING STATISTICS Steve drove water truck back to Pat.

### TODAY'S DRILLING RECORD

Hole No.	Previous Day's Total Footage	Ft. of Casing Set	Ft. of Overburden Drilled	Ft. of Hardrock Drilled	Shelby's Taken		Split Spoon's Taken		Total of All Footage Drilled	Total Footage Drilled This Hole	Total Footage Chargeable Today	REMARKS
					QTY.	Ft.	QTY.	Ft.				
<u># 415</u>				<u>45</u>								<u>clay</u>

### DISTRIBUTION OF CHARGEABLE HOURS

Travel time to & from job: \_\_\_\_\_

Drilling hours: 1 1/2

Other field work hours (describe): \_\_\_\_\_

Standby hours: \_\_\_\_\_

Total chargeable hours: 1 1/2

### CLIENT CHARGES

NC	QTY	SIZE	DESCRIPTION	NC	QTY	SIZE	DESCRIPTION

### DRILLING SUPPLIES CONSUMED

CHECK OFF NON-CHARGEABLE ITEMS (INC)

### MOBILIZATION & DEMOBILIZATION

From \_\_\_\_\_ To \_\_\_\_\_

Total miles driven this date: \_\_\_\_\_

Total hours driven this date: \_\_\_\_\_

Total miles driven entire trip: \_\_\_\_\_

Total hours driven entire trip: \_\_\_\_\_

Truck unit numbers: \_\_\_\_\_

### CLIENTS REMARKS:

15 x 4,1500 = 4,7250

CLIENTS APPROVAL OF CHARGES: Thomas E. Waldrop Jr.

ALL APPLICABLE HOURS, FOOTAGE & SUPPLIES CONSUMED ARE CHARGEABLE AS SHOWN UNLESS OTHERWISE NOTED ABOVE.

DISTRIBUTION: WHITE-Client's Copy; Canary-Field Office Copy

DRILLER/SUPERVISOR APPROVAL R. PreFly



drilling services inc.

# DRILLERS DAILY DRILL REPORT

**DRILLING INFORMATION** Client: Southwestern Explor. Assoc. Date 7/27 1977

AND

Drilling Location: Patagonia Job No. 044

## DRILLING STATISTICS

EQUIPMENT EMPLOYED: UNIT NO. 404 UNIT NO. 206 UNIT NO. 102 UNIT NO. \_\_\_\_\_ AUX. UNIT \_\_\_\_\_

## DRILLERS ACCOUNTING OF DAILY PAYROLL & MAINTENANCE DATA

TIME SHIFT STARTED: 10:30 TIME SHIFT ENDED 8:00 pm DAY SHIFT  NIGHT SHIFT

### PERSONNEL EMPLOYED

### DISTRIBUTION OF DAILY HOURS

EMPLOYEES NAMES	TOTAL HOURS	TRAVEL HOURS	DRILL HOURS	STANDBY HOURS	MAINT. HOURS	LUNCH HOURS	OTHER HOURS	DESCRIPTION OF OTHER WORK HOURS
DRILLER <u>R. Pritchard</u>	<u>9</u>							
HELPER <u>S. Holbrook</u>	<u>6</u>							
OPER <u>D. Tewart</u>	<u>9</u>							

### BRIEF EXPLANATION OF MAINT. HRS. (give unit no. & hrs.)

### GENERAL REMARKS

10:30 To 12:30 fuel pickup + 55 gal drum with gas drive to airport - no parts call room - wait till 12:30 pick-up parts  
12:30 To 2:00 drive to Patagonia  
2:00 To 3:00 Repair motor till hydrostatic  
3:00 to 7:00 Move set up on

## DRILLING STATISTICS

Hole No.	Previous Day's Total Footage	TODAY'S DRILLING RECORD						Total Footage Drilled	Total Footage Drilled This Hole	Total Footage Chargeable Today	REMARKS
		Ft. of Casing Set	Ft. of Overburden Drilled	Ft. of Hardrock Drilled	Qty.	Shelby's Taken Ft.	Qty.				
<u>6</u>				<u>20</u>							<u>Set up on #5 drill 60' Rig down move set up on</u> <u>7:00 to 7:30 cut Bit from case</u> <u>cut skirt down on sub-service</u> <u>Clay 2 start dry</u> <u>Clay 3 had to go to water injection</u>
<u>0</u>				<u>40</u>							

## DISTRIBUTION OF CHARGEABLE HOURS

Travel time to & from job: \_\_\_\_\_

Drilling hours: 4

Other field work hours (describe): \_\_\_\_\_

Standby hours: \_\_\_\_\_

Total chargeable hours: 4

## CLIENT CHARGES

NC	QTY	SIZE	DESCRIPTION
	<u>1</u>	<u>55 gal</u>	<u>(D-D)</u>

## DRILLING SUPPLIES CONSUMED

CHECK OFF NON-CHARGEABLE ITEMS (INC)			
NC	QTY	SIZE	DESCRIPTION
			<u>44.47 + 15%</u>

## MOBILIZATION & DEMOBILIZATION

From \_\_\_\_\_ To \_\_\_\_\_

Total miles driven this date: \_\_\_\_\_

Total hours driven this date: \_\_\_\_\_

Total miles driven entire trip: \_\_\_\_\_

Total hours driven entire trip: \_\_\_\_\_

Truck unit numbers: \_\_\_\_\_

### CLIENTS REMARKS:

3:30 - 7:30

CLIENTS APPROVAL OF CHARGES: Thomas E. Wilkins Jr  
4 x 7.15 = 460

ALL APPLICABLE HOURS, FOOTAGE & SUPPLIES CONSUMED ARE CHARGEABLE AS SHOWN UNLESS OTHERWISE NOTED ABOVE.

R. Pritchard



drilling services inc.

# DRILLERS DAILY DRILL REPORT

DRILLING INFORMATION Client: Southwestern Exploration Date: 7/28 1977

AND

Drilling Location: Peterson Job No. 844

## DRILLING STATISTICS

EQUIPMENT EMPLOYED: UNIT NO. 404 UNIT NO. 206 UNIT NO. 102 UNIT NO. \_\_\_\_\_ AUX. UNIT \_\_\_\_\_

## DRILLERS ACCOUNTING OF DAILY PAYROLL & MAINTENANCE DATA

TIME SHIFT STARTED: ~~8:00~~ 8:00 TIME SHIFT ENDED 7:30 DAY SHIFT  NIGHT SHIFT

### PERSONNEL EMPLOYED

### DISTRIBUTION OF DAILY HOURS

EMPLOYEES NAMES	TOTAL HOURS	TRAVEL HOURS	DRILL HOURS	STANDBY HOURS	MAINT. HOURS	LUNCH HOURS	OTHER HOURS	DESCRIPTION OF OTHER WORK HOURS
DRILLER <u>R Kelly</u>	<u>11 1/2</u>							
HELPER <u>S Holbrook</u>	<u>10 1/2</u>							
PER <u>D. Stewart</u>	<u>10 1/2</u>							

### BRIEF EXPLANATION OF MAINT. HRS. (give unit no. & hrs.)

### GENERAL REMARKS

~~Drive to Rig 8:00 To 2:00~~ drive to Rig 8:00 To 2:00 drill 100' Rig down set casing  
 drill 100' set casing Rig down move drill 100' blow seal 2:00 To 3:00  
 Remove & replace seal 3:00 To 7:00 drill to 100' set casing move  
 To new canyon set up drill 100' Trip out 60' shut down

## DRILLING STATISTICS

### TODAY'S DRILLING RECORD

Hole No.	Previous Day's Total Footage	Ft. of Casing Set	Ft. of Overburden Drilled	Ft. of Hardrock Drilled	Shelby's Taken		Split Spoon's Taken	Total or All Footage Drilled	Total Footage Drilled This Hole	Total Footage Chargeable Today	REMARKS
					Qty.	Ft.					
6			100								} clay } harder formations with clay
7			100								
8			100								
			100								

### DISTRIBUTION OF CHARGEABLE HOURS

### CLIENT CHARGES

### DRILLING SUPPLIES CONSUMED CHECK OFF NON-CHARGEABLE ITEMS (INC)

Travel time to & from job: \_\_\_\_\_  
 Working hours: 10  
 Other field work hours (describe): \_\_\_\_\_  
 Standby by hours: \_\_\_\_\_  
 Total chargeable hours: 10

NC	QTY	SIZE	DESCRIPTION	NC	QTY	SIZE	DESCRIPTION
	1	5 1/2	WMT				

### MOBILIZATION & DEMOBILIZATION

### CLIENTS REMARKS:

From \_\_\_\_\_ To \_\_\_\_\_  
 Total miles driven this date: \_\_\_\_\_  
 Total hours driven this date: \_\_\_\_\_  
 Total miles driven entire trip: \_\_\_\_\_  
 Total hours driven entire trip: \_\_\_\_\_  
 Truck unit numbers: \_\_\_\_\_

Thomas Waldrop Jr.  
 CLIENTS APPROVAL OF CHARGES: 10 hrs at \$15/hr. = \$1,500

ALL APPLICABLE HOURS, FOOTAGE & SUPPLIES CONSUMED ARE CHARGEABLE AS SHOWN UNLESS OTHERWISE NOTED ABOVE.

DISTRIBUTION: WHITE-Client's Copy; Canary-Field Office Copy

DRILLER/SUPERVISOR APPROVAL R Kelly



drilling services inc.

# DRILLERS DAILY DRILL REPORT

## DRILLING INFORMATION

Client: Southwestern Exp Assoc Date 7/27 1977

AND

Drilling Location: Patagonia Job No. 049

## DRILLING STATISTICS

EQUIPMENT EMPLOYED: UNIT NO. 409 UNIT NO. 102 UNIT NO. 206 UNIT NO.          AUX. UNIT water truck

## DRILLERS ACCOUNTING OF DAILY PAYROLL & MAINTENANCE DATA

TIME SHIFT STARTED: 8:15 TIME SHIFT ENDED 5:15 DAY SHIFT  NIGHT SHIFT

### PERSONNEL EMPLOYED

### DISTRIBUTION OF DAILY HOURS

EMPLOYEES NAMES	TOTAL HOURS	TRAVEL HOURS	DRILL HOURS	STANDBY HOURS	MAINT. HOURS	LUNCH HOURS	OTHER HOURS	DESCRIPTION OF OTHER WORK HOURS
DRILLER <u>R. Brethling</u>	<u>9</u>							
HELPER <u>S. Holbrook</u>	<u>8 1/2</u>							
OPER <u>D. Stewart</u>	<u>8 1/2</u>							

### BRIEF EXPLANATION OF MAINT. HRS. (give unit no. & hrs.)

### GENERAL REMARKS

8:15 To 2:30 Set casing man set up drill 100' Rig down  
move set up drill 55' very tough clay - plug up - saw out of water  
2:30 to 3:00 Replace Rotary Seal.  
3:00 To 5:15 Trip out (put on) insert trip in drill to 100 - set casing

## DRILLING STATISTICS

trip out move to town

Hole No.	Previous Day's Total Footage	TODAY'S DRILLING RECORD							Total Footage Drilled	Total Footage Drilled This Hole	Total Footage Chargeable Today	REMARKS
		Ft. of Casing Set	Ft. of Overburden Drilled	Ft. of Hardrock Drilled	Qty.	Shelby's Taken	Split Spoon's Taken	Ft.				
<u>0</u>				<u>100</u>								
<u>11</u>	<u>0</u>			<u>100</u>								

## DISTRIBUTION OF CHARGEABLE HOURS

Travel time to & from job: \_\_\_\_\_

Drilling hours: 8 1/2

Other field work hours (describe): \_\_\_\_\_

Standby hours: \_\_\_\_\_

Total chargeable hours: 8 1/2

## CLIENT CHARGES

## DRILLING SUPPLIES CONSUMED CHECK OFF NON-CHARGEABLE ITEMS (INC)

NC	QTY	SIZE	DESCRIPTION	NC	QTY	SIZE	DESCRIPTION
			<u>2454 CASINGS</u>				
			<u>2200 GAL OF WATER</u>				

## MOBILIZATION & DEMOBILIZATION

From \_\_\_\_\_ To \_\_\_\_\_

Total miles driven this date: \_\_\_\_\_

Total hours driven this date: \_\_\_\_\_

Total miles driven entire trip: \_\_\_\_\_

Total hours driven entire trip: \_\_\_\_\_

Truck unit numbers: \_\_\_\_\_

### CLIENTS REMARKS:

8 1/2 @ \$115.00/hr = \$977.50

### CLIENTS APPROVAL OF CHARGES:

Thomas E. Waldrop Jr.

ALL APPLICABLE HOURS, FOOTAGE & SUPPLIES CONSUMED ARE CHARGEABLE AS SHOWN UNLESS OTHERWISE NOTED ABOVE.

### DRILLER/SUPERVISOR APPROVAL

R. Brethling

RECEIVED AUG 1 1977

July 26, 1977

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Attention: Mr. Jim Briscoe

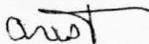
Dear Jim,

With reference to our offer of drilling services No. 784A and our conversation on July 22, 1977 relative to mobilization - demobilization charges we confirm the following arrangement:

1. Inasmuch as we had a drill unit in the Patagonia area mobilization and demobilization charges for this undertaking would be reduced by \$ 400.00 to \$ 850.00 lump sum.
2. In the event that the drilling program cannot initially be completed by circumstances beyond our control and we were requested to return to the area an additional mobilization/demobilization charge would apply to mobilizing personnel and equipment out of Tempe, Arizona. Therein, as discussed, the drill unit will, upon completion of the present work for Southwestern, return to Tempe and the drill unit would be available from this source for the next two to three weeks.

Best regards.

Yours very truly,



O. Manchak  
General Manager

OM: jm

APPROVED



July 12, 1977

P-134

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

RECEIVED JUL 13 1977

Attention: Mr. Jim A Briscoe

Dear Jim:

We enclose the following documents relative to the upcoming exploration drilling program in the Patagonia area.

1. Offer of drilling services. I have initialled the changes that we had agreed upon.
2. Certificate of Insurance.

Tentatively, subject to your requirement, we are scheduling start up for the last week of August. We will, however, talk with you or Tom Waldrip early next week at which time we can firm up a starting date.

Best regards.

Yours very truly,

*amot*

O. Manchak  
General Manager

OM/jf

Enclosures



DRILLING SERVICES INC.

P-134

1521 SOUTH INDIAN BEND ROAD  
SUITE 3  
TEMPE, ARIZONA 85281  
TELEPHONE (602) 968-2414

OFFER OF DRILLING SERVICES

TO: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

DATE: June 14, 1977

(Hereinafter referred to as client)

QUOTATION NO. 784A

FOR THE ATTENTION  
OF:

Mr. Jim A. Briscoe

DRILLING SERVICES TO BE PERFORMED BY:

Drilling Services Inc.

(Hereinafter referred to as contractor)

GENERAL INFORMATION:

The contractor will undertake the work herein on a contract basis subject always to the terms, conditions, provisions and information contained herein:

1. Location of Work:

In the vicinity of Patagonia, Arizona.

2. Formation:

Gila type formation (soft & weathered) with hardrock below.

3. Proposed Method of Drilling and Sampling:

The reverse circulation rotary method (RCR) will be employed using double wall drill pipe, full bore tricone and/or insert bits and reverse circulation air/water flow to drill and sample the formation. A continuous sample of the geologic formation will be recovered up through the center of the double wall drill pipe and the sample will be discharged at the surface via a cyclone directly into a three tiered Jones type splitter. Should it be necessary and/or desirable to drill the hard formations with a down the hole hammer drill, the double wall drill pipe, interchange sub and down the hole hammer drill configuration would be utilized.

4. Hole Size, Angle, and Maximum Depth:

Holes shall be a minimum of 4 7/8" diameter, drilled vertically to a maximum depth of 500 feet.

5. Scope of Work and Drilling Requirements:

It is estimated that this drilling program would be for a total of 13 holes ~~XXXXX~~  
~~XXXXXXXXXXXXXXXXXXXX~~ for an estimated total footage of 1000 feet.

After setting of the blowout preventer and/or surface casing, drilling would proceed to provide sample from each 5 foot interval.



**B. THE CONTRACTOR PROMISES AND AGREES:**

1. To furnish equipment as per Schedule "A" attached.
2. To furnish personnel as per Schedule "B" attached.
3. To provide a board and room allowance for contractor furnished personnel.
4. To provide parts, supplies, materials, fuels and lubricants pertinent to the efficient performance of this undertaking, excepting casing, cement, rotary, diamond and down the hole hammer bits.
5. To procure, at the request of client's representative, such additional supplies, materials, personnel and equipment as may be necessary for the efficient operation and completion of the drilling assignment. Compensation for the procurement of such additional supplies, materials, personnel and equipment shall be at the rates set forth in Schedule "C" attached.
6. To leave the drill site free of all debris resulting from the work performed by the contractor (excepting drill cuttings).
7. To conduct all operations hereunder in full compliance of all rules and regulations adopted by any government agency whether Federal, State, City or Municipal.
8. To prepare a daily drill log summarizing in detail the days activities including consumable and chargeable items, One copy of the daily drill log will be provided to the client's representative.
9. To carry, at all times while conducting operations hereunder, the following insurance:
  - a. Workmen's Compensation Insurance to comply with applicable Federal and State Compensation laws.
  - b. General Public Liability Insurance with bodily injury of \$ 250,000.00 for any one person, \$ 500,000.00 for any one accident and property damage limit of \$ 50,000.00 for any one accident.
10. To operate the contractor's equipment on a single shift basis up to 10 hours per day, 5 days per week. Actual field work time would be dependent upon time consumed in daily travel to and from place of accommodation and the job site.
11. To commence drilling operations within 14 days after receipt of award and to diligently continue the work until it is completed or until the assignment is terminated as hereinafter provided.
12. To render an invoice for services performed within five (5) days after the 15th and the end of the month or alternately within ten (10) days of the conclusion or termination of the assignment if such assignment is commenced and concluded within a calendar month.

**C. CLIENT OBLIGATIONS:**

1. That prior to the commencement of drilling at the site named herein, the client shall have determined and marked the locations of the bore holes and shall have made provision for right-of-way, access and suitable drill sites. The client shall procure all entry permits and hold harmless the contractor for claims of trespass or damage to private property required in carrying out the work contemplated by the client hereunder, except where contractor is negligent or has violated the client's specific written instructions. The client will provide towing assistance as may be required.
2. The client shall be responsible for all underground utilities, the plugging of bore holes and the refurbishing of the ground surface as may be required.
3. The client shall be responsible for the handling, transporting and safekeeping of the geological samples and will provide all sample bags and/or containers for the storage of the samples.
4. That should it direct, in writing, the contractor to furnish supplies, materials, personnel and equipment other than those items specifically furnished by contractor in Schedules "A" & "B" of this quotation, the client will reimburse contractor for those items as detailed in Schedule "C" attached.



- 
5. Client agrees to pay contractor for the mobilization and demobilization of personnel and equipment, for services provided and for materials supplied at the rates as detailed in Schedule "C" herein within 15 days after the receipt of the contractor's invoice.



D. OTHER SPECIAL CONSIDERATIONS:

1. Contractor's invoices for services provided are net, due and payable upon receipt. Invoices unpaid thirty (30) days after date of invoice will be subject to a delinquency charge of 1 percent per month (12 percent per annum).
2. All the information and data obtained by reason of, or in connection with, the work shall be the exclusive property of the client. The contractor will keep all such information and data strictly confidential and will not divulge or use, or permit its employees to divulge or use any information or data so obtained.
3. All risk and damage to contractor's tools, machinery, appliances or equipment shall be at all times borne and assumed by the contractor unless client expressly agrees to reimburse contractor for such loss or damage.
4. It is specifically understood that the contractor is not the agent of the client and is not authorized to act for or on behalf of the client or to bind the client in any manner whatsoever, and that this agreement shall never be construed as creating a joint venture or other relationship whereby either party hereto shall be held for the acts either of omission or commission of the other party hereunder.
5. That neither party to this agreement shall be liable for any loss or damage caused by reason of strikes, accidents, acts of God, action of the elements, or of any other causes beyond its control.
6. That this assignment is based upon contractor performing this assignment under a non-union operation. Should local unions require contractor or its employees to join their local union against contractor's will, this agreement shall terminate and shall be open for renegotiation.
7. This agreement shall continue in force until the drilling assignment is completed or until cancelled by either party hereto, such cancellation to be effected by giving written notice (by mail, or telegram) to the other party at the addresses given herein not less than 3 calendar days prior to date of termination: PROVIDED HOWEVER, upon the breach of any substantial provision of this agreement, the party not guilty of such breach, may if it elects, cancel this agreement without the written notice provided for above. In the event of termination under this provision, the client shall compensate contractor in accordance with the schedule of compensation as detailed in Schedule "C" herein.
8. This agreement will be governed by and construed in accordance with the laws of the State of Arizona.
9. This quotation is valid for acceptance through June 20, 1977. After June 20, 1977 the honoring of this quotation will be subject to availability of equipment and will, therefore, be subject to the contractor's review.

DRILLING SERVICES INC.

O. Manchak  
O. Manchak  
General Manager

QUOTATION ACCEPTED THIS

23 DAY OF June 1977

BY James A. Briscoe  
James A. Briscoe, Agent for Texas  
Gas Exploration Corporation, P.O.  
Box 52310, Houston, Texas 77052



SCHEDULE "C"  
Compensation Schedule

1. Mobilization and Demobilization:

For the supplying of equipment and the furnishing of personnel as per schedules "A" and "B" at the lump sum price of \$1,250.00.

2. Drilling Services:

Job site services which will include rigging up and down, setting and pulling the blowout preventer and/or surface casing, drilling, moving between bore holes will be provided at a hourly rate. For all such hours consumed at the job site, commencing and ending with the shift in the field, client will be invoiced at \$115.00 per hour. Additionally, contractor guarantees that job site services, ~~XXXXXXXXXXXXXXXXXXXXXXX~~ <sup>ATB</sup> for a 1000 ft. drill program will not exceed \$10.00 per ft and/or \$10,000.00.

3. Breakdown and Servicing Equipment Time:

No charges for down time would apply for the time consumed servicing and/or repairing contractor supplied equipment.

4. Compensation For Lost Pipe, Drill Tools, Extracting Stuck or Broken Drill Pipe, Drill Tools, Etc:

No compensation will be due the contractor for drill pipe and drill tools lost and or abandoned during the course of this drilling assignment. However, the hours consumed in the recovery and/or attempted recovery of drill pipe and drill tools, on any one bore hole, would be chargeable at an hourly rate of \$85.00. The maximum hours chargeable on any one bore hole would be limited to 8 hours.

5. Daily Travel Time:

Daily travel from the nearest source of accommodation to the job site and return is included in all of the plans in Schedule "C". However, should driving time exceed one hour per day by circumstances beyond the control of the contractor such excess time would be chargeable at the rate of \$35.00 per hour.

6. Standby Time:

Hours consumed on a standby basis, at the convenience and/or request of the client, will be chargeable at the following rates:

- a. With full crew @ \$85.00 per hour
- b. Without full crew @ \$55.00 per hour (provided the drilling supervisor and/or crew driller is notified at least 8 hours in advance that standby is required.)

All standby charges, per shift, will be limited to a maximum of 8 hours per day and 40 hours per week.

7. Providing Drill Bits, Additional Supplies, Equipment, Personnel, Etc:

The contractor will, at the request of the client, provide drill bits, cement, supplies, equipment etc. and engage sub contractors and provide such additional services as may be required at contractor's invoice cost plus 15% handling.



SCHEDULE "A"  
Schedule of Equipment To Be Supplied

<u>ITEM</u>	<u>QTY.</u>	
1.	1	1975 Cyclone Model TH60 drill unit mounted on a diesel powered carrier. The drill unit is equipped with a LeRoi air compressor (256S2) delivering 560 CFM @ 250 PSI, reverse circulation system for drilling with dual tube drill pipe and hydraulically controlled water injection system.
2.	500'	Feet of 4½" O.D. x 2½" I.D. dual tube drill pipe.
3.	1	Pickup truck.
4.	1	Cyclone assembly c/w discharge hose and sample collecting tubs.
5.		Drill bit subs and adapters for tricone drilling up to a hole diameter of 5 1/4".
6.	1	1974 combination pipe, service and water truck.
7.	1	Three tiered Jones type sample splitter.
8.	1	Mission hammer drill c/w interchange sub.

SCHEDULE "B"  
Schedule Of Personnel To Be Furnished

(1) Driller

(1) Driller's Assistant



July 12, 1977

P-134

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

RECEIVED JUL 13 1977

Attention: Mr. Jim A Briscoe

Dear Jim:

We enclose the following documents relative to the upcoming exploration drilling program in the Patagonia area.

1. Offer of drilling services. I have initialled the changes that we had agreed upon.
2. Certificate of Insurance.

Tentatively, subject to your requirement, we are scheduling start up for the last week of August. We will, however, talk with you or Tom Waldrip early next week at which time we can firm up a starting date.

Best regards.

Yours very truly,

*ost*

O. Manchak  
General Manager

OM/jf

Enclosures



# Certificate of Insurance



THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER.  
THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES LISTED BELOW.

NAME AND ADDRESS OF AGENCY  WALSH, GRAY, MOORE & ALBERT, INC. 10 Guaranty Bank Bldg. Denver, Colorado 80222	<b>COMPANIES AFFORDING COVERAGES</b>	
	COMPANY LETTER <b>A</b>	Hartford Insurance Group
	COMPANY LETTER <b>B</b>	Aetna Casualty & Surety Co.
	COMPANY LETTER <b>C</b>	
	COMPANY LETTER <b>D</b>	
NAME AND ADDRESS OF INSURED  Drilling Services, Inc. 521 Indian Bend Road Tempe, Arizona 85281	COMPANY LETTER <b>E</b>	

This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time.

COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	POLICY EXPIRATION DATE	Limits of Liability in Thousands (000)		
					EACH OCCURRENCE	AGGREGATE
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMPREHENSIVE FORM <input checked="" type="checkbox"/> PREMISES—OPERATIONS <input checked="" type="checkbox"/> EXPLOSION AND COLLAPSE HAZARD <input checked="" type="checkbox"/> UNDERGROUND HAZARD <input checked="" type="checkbox"/> PRODUCTS/COMPLETED OPERATIONS HAZARD <input checked="" type="checkbox"/> CONTRACTUAL INSURANCE <input checked="" type="checkbox"/> BROAD FORM PROPERTY DAMAGE <input checked="" type="checkbox"/> INDEPENDENT CONTRACTORS <input checked="" type="checkbox"/> PERSONAL INJURY <input type="checkbox"/>	34C701801	4/22/78	BODILY INJURY	\$	\$ *
				PROPERTY DAMAGE	\$	\$
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 500	\$ 500
				*Applies to Products/Completed Operations Hazard.		\$ (PERSONAL INJURY)
A	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> COMPREHENSIVE FORM <input checked="" type="checkbox"/> OWNED <input checked="" type="checkbox"/> HIRED <input checked="" type="checkbox"/> NON-OWNED	34C701801	4/22/78	BODILY INJURY (EACH PERSON)	\$	
				BODILY INJURY (EACH OCCURRENCE)	\$	
				PROPERTY DAMAGE	\$	
				BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 500	
B	<b>EXCESS LIABILITY</b> <input checked="" type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM	BINDER	4/22/78	BODILY INJURY AND PROPERTY DAMAGE COMBINED	\$ 1,000	\$
A	<b>WORKERS' COMPENSATION and EMPLOYERS' LIABILITY</b>	34WE700547	4/30/78	STATUTORY	\$ 100	(EACH ACCIDENT)
	<b>OTHER</b> Blanket Contractor's Equipment Broad Form	341C722171	4/22/78	Blanket Coverage		

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES

CORE DRILLING - All States

**Cancellation:** Should any of the above described policies be cancelled before the expiration date thereof, the issuing company will endeavor to mail 10 days written notice to the below named certificate holder, but failure to mail such notice shall impose no obligation or liability of any kind upon the company.

NAME AND ADDRESS OF CERTIFICATE HOLDER:  
 South Western Exploration Associates  
 6783 Camino Principal  
 Tucson, Arizona 85715

DATE ISSUED: 6/27/77  
  
 AUTHORIZED REPRESENTATIVE  
 Walsh, Gray, Moore & Albert, Inc.

DRILLING SERVICES INC.

1521 SOUTH INDIAN BEND ROAD  
SUITE 3  
TEMPE, ARIZONA 85281  
TELEPHONE (602) 968-2414

OFFER OF DRILLING SERVICES

TO: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

DATE: June 14, 1977

(Hereinafter referred to as client)

QUOTATION NO. 784A

FOR THE ATTENTION  
OF: Mr. Jim A. Briscoe

DRILLING SERVICES TO BE PERFORMED BY:  
Drilling Services Inc.  
(Hereinafter referred to as contractor)

A. GENERAL INFORMATION:

The contractor will undertake the work herein on a contract basis subject always to the terms, conditions, provisions and information contained herein:

1. Location of Work:

In the vicinity of Patagonia, Arizona.

2. Formation:

Gila type formation (soft & weathered) with hardrock below.

3. Proposed Method of Drilling and Sampling:

The reverse circulation rotary method (RCR) will be employed using double wall drill pipe, full bore tricone and/or insert bits and reverse circulation air/water flow to drill and sample the formation. A continuous sample of the geologic formation will be recovered up through the center of the double wall drill pipe and the sample will be discharged at the surface via a cyclone directly into a three tiered Jones type splitter. Should it be necessary and/or desirable to drill the hard formations with a down the hole hammer drill, the double wall drill pipe, interchange sub and down the hole hammer drill configuration would be utilized.

4. Hole Size, Angle, and Maximum Depth:

Holes shall be a minimum of 4 7/8" diameter, drilled vertically to a maximum depth of 500 feet.

5. Scope of Work and Drilling Requirements:

It is estimated that this drilling program would be for a total of 13 holes ~~XXXXXX~~  
~~XXXXXXXXXXXXXXXXXXXX~~ for an estimated total footage of 1000 feet.

After setting of the blowout preventer and/or surface casing, drilling would proceed to provide sample from each 5 foot interval.



B. THE CONTRACTOR PROMISES AND AGREES:

1. To furnish equipment as per Schedule "A" attached.
2. To furnish personnel as per Schedule "B" attached.
3. To provide a board and room allowance for contractor furnished personnel.
4. To provide parts, supplies, materials, fuels and lubricants pertinent to the efficient performance of this undertaking, excepting casing, cement, rotary, diamond and down the hole hammer bits.
5. To procure, at the request of client's representative, such additional supplies, materials, personnel and equipment as may be necessary for the efficient operation and completion of the drilling assignment. Compensation for the procurement of such additional supplies, materials, personnel and equipment shall be at the rates set forth in Schedule "C" attached.
6. To leave the drill site free of all debris resulting from the work performed by the contractor (excepting drill cuttings).
7. To conduct all operations hereunder in full compliance of all rules and regulations adopted by any government agency whether Federal, State, City or Municipal.
8. To prepare a daily drill log summarizing in detail the days activities including consumable and chargeable items, One copy of the daily drill log will be provided to the client's representative.
9. To carry, at all times while conducting operations hereunder, the following insurance:
  - a. Workmen's Compensation Insurance to comply with applicable Federal and State Compensation laws.
  - b. General Public Liability Insurance with bodily injury of \$ 250,000.00 for any one person, \$ 500,000.00 for any one accident and property damage limit of \$ 50,000.00 for any one accident.
10. To operate the contractor's equipment on a single shift basis up to 10 hours per day, 5 days per week. Actual field work time would be dependent upon time consumed in daily travel to and from place of accommodation and the job site.
11. To commence drilling operations within 14 days after receipt of award and to diligently continue the work until it is completed or until the assignment is terminated as hereinafter provided.
12. To render an invoice for services performed within five (5) days after the 15th and the end of the month or alternately within ten (10) days of the conclusion or termination of the assignment if such assignment is commenced and concluded within a calendar month.

C. CLIENT OBLIGATIONS:

1. That prior to the commencement of drilling at the site named herein, the client shall have determined and marked the locations of the bore holes and shall have made provision for right-of-way, access and suitable drill sites. The client shall procure all entry permits and hold harmless the contractor for claims of trespass or damage to private property required in carrying out the work contemplated by the client hereunder, except where contractor is negligent or has violated the client's specific written instructions. The client will provide towing assistance as may be required.
2. The client shall be responsible for all underground utilities, the plugging of bore holes and the refurbishing of the ground surface as may be required.
3. The client shall be responsible for the handling, transporting and safekeeping of the geological samples and will provide all sample bags and/or containers for the storage of the samples.
4. That should it direct, in writing, the contractor to furnish supplies, materials, personnel and equipment other than those items specifically furnished by contractor in Schedules "A" & "B" of this quotation, the client will reimburse contractor for those items as detailed in Schedule "C" attached.



- 
5. Client agrees to pay contractor for the mobilization and demobilization of personnel and equipment, for services provided and for materials supplied at the rates as detailed in Schedule "C" herein within 15 days after the receipt of the contractor's invoice.



OTHER SPECIAL CONSIDERATIONS:

1. Contractor's invoices for services provided are net, due and payable upon receipt. Invoices unpaid thirty (30) days after date of invoice will be subject to a delinquency charge of 1 percent per month (12 percent per annum).
2. All the information and data obtained by reason of, or in connection with, the work shall be the exclusive property of the client. The contractor will keep all such information and data strictly confidential and will not divulge or use, or permit its employees to divulge or use any information or data so obtained.
3. All risk and damage to contractor's tools, machinery, appliances or equipment shall be at all times borne and assumed by the contractor unless client expressly agrees to reimburse contractor for such loss or damage.
4. It is specifically understood that the contractor is not the agent of the client and is not authorized to act for or on behalf of the client or to bind the client in any manner whatsoever, and that this agreement shall never be construed as creating a joint venture or other relationship whereby either party hereto shall be held for the acts either of omission or commission of the other party hereunder.
5. That neither party to this agreement shall be liable for any loss or damage caused by reason of strikes, accidents, acts of God, action of the elements, or of any other causes beyond its control.
6. That this assignment is based upon contractor performing this assignment under a non-union operation. Should local unions require contractor or its employees to join their local union against contractor's will, this agreement shall terminate and shall be open for renegotiation.
7. This agreement shall continue in force until the drilling assignment is completed or until cancelled by either party hereto, such cancellation to be effected by giving written notice (by mail, or telegram) to the other party at the addresses given herein not less than 3 calendar days prior to date of termination: PROVIDED HOWEVER, upon the breach of any substantial provision of this agreement, the party not guilty of such breach, may if it elects, cancel this agreement without the written notice provided for above. In the event of termination under this provision, the client shall compensate contractor in accordance with the schedule of compensation as detailed in Schedule "C" herein.
8. This agreement will be governed by and construed in accordance with the laws of the State of Arizona.
9. This quotation is valid for acceptance through June 20, 1977. After June 20, 1977 the honoring of this quotation will be subject to availability of equipment and will, therefore, be subject to the contractor's review.

DRILLING SERVICES INC.

O. Manchak  
 O. Manchak  
 General Manager

QUOTATION ACCEPTED THIS

23 DAY OF June 1977

BY James A. Briscoe

James A. Briscoe, Agent for Texas  
 Gas Exploration Corporation, P.O.  
 Box 52310, Houston, Texas 77052



SCHEDULE "C"  
Compensation Schedule

1. Mobilization and Demobilization:

For the supplying of equipment and the furnishing of personnel as per schedules "A" and "B" at the lump sum price of \$1,250.00.

2. Drilling Services:

Job site services which will include rigging up and down, setting and pulling the blowout preventer and/or surface casing, drilling, moving between bore holes will be provided at a hourly rate. For all such hours consumed at the job site, commencing and ending with the shift in the field, client will be invoiced at \$115.00 per hour. Additionally, contractor guarantees that job site services, ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~ <sup>#13</sup> for a 1000 ft. drill program will not exceed \$10.00 per ft and/or \$10,000.00.

3. Breakdown and Servicing Equipment Time:

No charges for down time would apply for the time consumed servicing and/or repairing contractor supplied equipment.

4. Compensation For Lost Pipe, Drill Tools, Extracting Stuck or Broken Drill Pipe, Drill Tools, Etc:

No compensation will be due the contractor for drill pipe and drill tools lost and or abandoned during the course of this drilling assignment. However, the hours consumed in the recovery and/or attempted recovery of drill pipe and drill tools, on any one bore hole, would be chargeable at an hourly rate of \$85.00. The maximum hours chargeable on any one bore hole would be limited to 8 hours.

5. Daily Travel Time:

Daily travel from the nearest source of accommodation to the job site and return is included in all of the plans in Schedule "C". However, should driving time exceed one hour per day by circumstances beyond the control of the contractor such excess time would be chargeable at the rate of \$35.00 per hour.

6. Standby Time:

Hours consumed on a standby basis, at the convenience and/or request of the client, will be chargeable at the following rates:

- a. With full crew @ \$85.00 per hour
- b. Without full crew @ \$55.00 per hour (provided the drilling supervisor and/or crew driller is notified at least 8 hours in advance that standby is required.)

All standby charges, per shift, will be limited to a maximum of 8 hours per day and 40 hours per week.

7. Providing Drill Bits, Additional Supplies, Equipment, Personnel, Etc:

The contractor will, at the request of the client, provide drill bits, cement, supplies, equipment etc. and engage sub contractors and provide such additional services as may be required at contractor's invoice cost plus 15% handling.



SCHEDULE "A"  
Schedule of Equipment To Be Supplied

<u>ITEM</u>	<u>QTY.</u>	
1.	1	1975 Cyclone Model TH60 drill unit mounted on a diesel powered carrier. The drill unit is equipped with a LeRoi air compressor (256S2) delivering 560 CFM @ 250 PSI, reverse circulation system for drilling with dual tube drill pipe and hydraulically controlled water injection system.
2.	500'	Feet of 4½" O.D. x 2½" I.D. dual tube drill pipe.
3.	1	Pickup truck.
4.	1	Cyclone assembly c/w discharge hose and sample collecting tubs.
5.		Drill bit subs and adapters for tricone drilling up to a hole diameter of 5 1/4".
6.	1	1974 combination pipe, service and water truck.
7.	1	Three tiered Jones type sample splitter.
8.	1	Mission hammer drill c/w interchange sub.

SCHEDULE "B"  
Schedule Of Personnel To Be Furnished

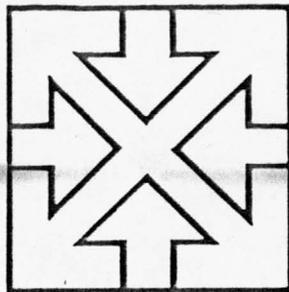
- (1) Driller  
 (1) Driller's Assistant





Consultants in:

- base & precious metals • uranium
  - coal • geothermal • environment
  - remote sensing • color aerial photography
  - interpretation-image processing
- Worldwide Mobilization



6783 Camino Principal  
Tucson, Arizona 85715  
(602) 885-2319

## Southwestern Exploration Associates

July 11, 1977

Mr. Kenneth D. Bishop  
District Ranger  
U. S. Forest Service  
1231 E. Fry Blvd.  
Sierra Vista, Arizona 85636

Dear Mr. Bishop,

Southwestern Exploration Associates desires to drill 13 holes for claim validation purposes on Forest Service land. Enclosed are the proposed plan of operations and a map detailing proposed drill hole locations.

Please note that we have requested that we be allowed to leave open two proposed access roads so that we may continue our drilling work in the future. We feel that this will allow us to minimize environmental damage, as we must return to the same drill hole locations next year.

Sincerely,

Robert Larkin  
SEA Environmental Management

RL/mp  
0533

Enclosure: Plan of Operations  
Map

## PLAN OF OPERATIONS

- 1.) Operator: Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715 (602) 885-2319
- 2.) Claimant: A joint venture of Texas Gas Exploration Corp.  
P.O. Box 52310, Houston, Texas 77052, and Felmont  
Oil Co., 1642 Capital National Bank Bldg., 1300  
Main St., Houston, Texas 77002.
- 3.) Work to be Done:

Southwestern Exploration Associates (SEA) desires to drill 13 location holes with a minimum 4 7/8" inch rotary air drill. The drill is truck mounted and is equipped with leveling pads, thus eliminating the need for construction of drill pads. It will be necessary to extend an existing road a distance of approximately 1000 feet (see Road A on accompanying map) to allow access to one of the drill sites (#9). It will also be necessary to construct a branch road off patented ground (Road B) to allow access to another drill site (see addendum). The following is a list of drill sites and their proposed locations; all are located in T 23S, R 16E (unsurveyed):

L.D.H. #1	-	NW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 2
#2	-	NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 2
#3	-	SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 1
#4	-	NW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 1
#5	-	NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 11
#6	-	SE $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 11
#7	-	SE $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 2
#8	-	SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 11
L.D.H. #9	-	SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 11
#10	-	SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 2
#11	-	NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 2
#12	-	SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 2
#13	-	NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 1
#14 (alternate)	-	NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 3

The drilling locations have been selected after determining alternative sites and access routes which will minimize adverse effects on the environment. All but two of the drill sites will be located adjacent to existing roads in flat, open areas which are presently devoid of vegetation except native grasses.

4.) Area of Operations:

All drilling sites will be confined to unsurveyed Sections 1,2,3,10,11 & 12 of T 23 S, R 16 E. The access road required for Drill Hole #9 will be constructed in the NW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 11, T 23 S, R 16 E (unsurveyed). The access road for Drill Hole #11 will be constructed in the NW $\frac{1}{4}$  of the SW $\frac{1}{4}$  of Section 2, T 23 S, R 16 E (see map).

5.) Access to the Area:

Existing roads C, D and E (see map) will provide access to 11 of the drill sites. Of these sites, the average distance from existing roads is less than 200 feet. As mentioned, 2 roads will be constructed. One will be for a distance of 1000 feet (Road A), and the other will be necessary in segments only for a total distance of approximately 800 feet. Bulldozer work will be required here mainly to provide access past several deep arroyos and eroded areas.

6.) Transportation:

Standard wheeled vehicles will be used to transport equipment and personnel to and from the drill site. A "Crawler" Caterpillar will be utilized for road construction work.

7.) Period of Activity:

Operations will begin as soon as possible after receipt of final approval for this plan of operations. The total time of the Operations Permit will be for a period of six months. The immediate operations will require 30 days or less. We wish to request that the access roads we construct be left open for a period of one year, so that we may utilize them for deeper drilling to be conducted next year (in the same drill holes). Overall, we feel that the environmental damage will be minimized if the roads can be left open, since the same ground would have to be bulldozed again next year.

8.) Environmental Protection Measures:

The drill sites have been chosen for their accessibility, minimal vegetative cover, and flat topography. Drill pads will not be required at any of the sites. In an effort to harmonize the environmental damage with scenic values, the two roads will be constructed in the bottoms of canyons. Where access is

obtained across existing arroyos, care will be taken not to obstruct flow in the water channels. Field-work has been conducted to design the exact locations of the two roads so that damage to vegetation is minimized.

A water truck with a 600 gallon capacity will be on the drill sites during operations to enhance the drilling and as additional protection against fire. Solid wastes will be disposed of in a proper manner and care will be taken to ensure that minimal damage occurs from spilled fuels and oils. Our plans at present are to reseed any damage at drilling locations with weeping love grass. We will reseed the new roadways immediately after completion of road work and drilling. It is our desire at this time to keep the drill roads open for at least a one year period or until our drill program has been completed. At such time we will block access to the area as deemed necessary by the Forest Service.

9.) Cleaning of Site:

All equipment and garbage will be removed from the site and the area will be policed prior to our departure.

10.) On Site SEA Manager:

Mr. Thomas E. Waldrip, Jr., Assistant Geologist, will be on the sites during drilling operations in case there is a need for field contact with the SEA staff. Mr. James A. Briscoe, President of SEA, will be available in our Tucson office.

11.) Questions:

Any questions concerning this plan should be referred to Robert A. Larkin, SEA Environmental Management at Southwestern Exploration Associates, 6783 Camino Principal, Tucson, Arizona 85715, telephone (602) 885-2319.

Addendum

We are presently awaiting permission to transport road-building equipment over private land. If we are unable to obtain permission, proposed Drill Hole #11 will not be drilled. This will also eliminate the need for constructing Road B (see map). As an alternative to Drill Hole #11, Drill Hole #14 would then be drilled. As shown on the map, Hole #14 would be situated adjacent to the existing road on flat topography with minimal vegetation.

TO

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715  
Attn: Mr. Jim A. Briscoe

FROM

0023

**DRILLING SERVICES INC.**  
1521 SOUTH INDIAN BEND ROAD  
TEMPE, ARIZONA 85281  
(602) 968-2414

SUBJECT: \_\_\_\_\_

DATE: June 14, 1977

FOLD ↑

Enclosed are two copies of revised quotation now numbered 784A. The revised quotation incorporates the subjects discussed which we trust are in accordance with your understanding.

Should any subject require additional discussion, please call.

Regards.

*Jim: note items: A 2 & 3 page 1  
D 9 page 4  
Schedule A item 8 page 5  
item 2 page 6*

PLEASE REPLY TO →

SIGNED

*O. Manchat*

O. Manchat

REPLY

DATE:

SIGNED

FROM

Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715  
Attn: Mr. Jim A. Briscoe

TO

**DRILLING SERVICES INC.**  
1521 SOUTH INDIAN BEND ROAD  
TEMPE, ARIZONA 85281  
(602) 968-2414

SUBJECT: \_\_\_\_\_

DATE: June 14, 1977

FOLD ↑

Enclosed are two copies of revised quotation now numbered 784A. The revised quotation incorporates the subjects discussed which we trust are in accordance with your understanding.

Should any subject require additional discussion, please call.

Regards.

*Jim: note items: A 2 & 3 page 1  
D 9 page 4  
Schedule A item 8 page 5  
item 2 page 6*

RETURN TO →

SIGNED

*O. Manchat*

O. Manchat

REPLY

DATE: \_\_\_\_\_

SIGNED \_\_\_\_\_



RECEIVED JUN 1 1977

May 31, 1977

Mr. Jim Briscoe  
Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Dear Mr. Briscoe:

We enclose herewith our offer of drilling services for your proposed drilling program in the Patagonia, Arizona area. Additionally, there is attached to the offer a pro forma cost summary which details our best estimate of time requirement, productivity and costs. Note that we have used as a basis a total 800 ft. drilling program. However, the resultant costs of either plans A, B and or C could be applied to a lesser or greater amount of footage.

We talked about our sampling arrangement and in hopes that you will be able to follow through what I had explained on the telephone, I am enclosing photographs of our standard pencil type cyclone and our three tiered Jones splitter.

Thank you for the opportunity of quoting. Should you have additional questions or should clarification of our offer be required, please call.

Yours very truly,

*O. Manchak*

O. Manchak  
General Manager

OM/jf

Enclosures

cc: Your Tucson Office



May 31, 1977

Mr. Jim Briscoe  
Southwestern Exploration Associates  
6783 Camino Principal  
Tucson, Arizona 85715

Dear Mr. Briscoe:

We enclose herewith our offer of drilling services for your proposed drilling program in the Patagonia, Arizona area. Additionally, there is attached to the offer a pro forma cost summary which details our best estimate of time requirement, productivity and costs. Note that we have used as a basis a total 800 ft. drilling program. However, the resultant costs of either plans A, B and or C could be applied to a lesser or greater amount of footage.

We talked about our sampling arrangement and in hopes that you will be able to follow through what I had explained on the telephone, I am enclosing photographs of our standard pencil type cyclone and our three tiered Jones splitter.

Thank you for the opportunity of quoting. Should you have additional questions or should clarification of our offer be required, please call.

Yours very truly,

*O. Manchak*

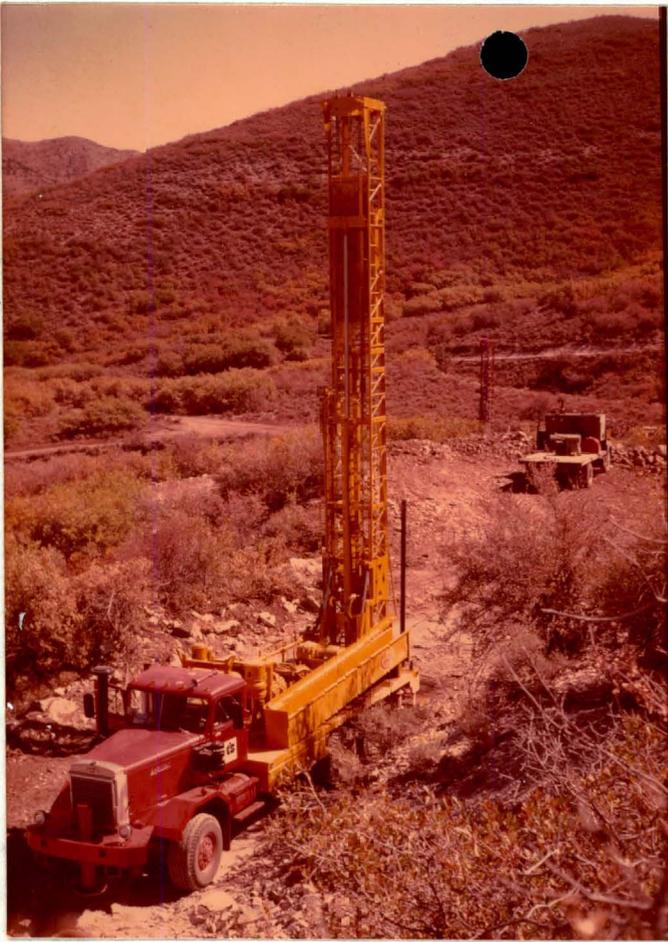
O. Manchak  
General Manager

OM/jf

Enclosures

cc: Your Tucson Office





TH60 CYCLONE DRILL



PENCIL TYPE CYCLONE



THREE TIERED JONES SPLITTER  
PROVIDES A 1/8 SAMPLE SPLIT



drilling services inc.