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Copy to Balla  
Sell

Likewise for you-all!

March 10, 1989

Kurtz  
3/15/89

TO: Messrs. D. M. Smith, Jr.  
P. G. Vikre

RECEIVED

Drill Proposals

MAR 15 1989

EXPLORATION DEPARTMENT

Properties proposed for drilling should be reviewed in the field by either myself, Mr. Kurtz or Mr. Brown before they are drilled as there is always the possibility of disagreement as to whether drilling is justified. Therefore, if one of us has not been on the ground, please have a geologic report with recommendation in our hands sufficiently far in advance of drilling so that an on-site review can be made if it is considered necessary.

It will be your responsibility either to get one of us on the ground or obtain agreement that you may proceed based on the geologic report.

*F. T. Graybeal*

F. T. Graybeal

FTG:mc

cc: W. L. Kurtz

March 15, 1989

FILE NOTE

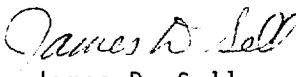
Drilling Projects

New York has set down some rules on getting some paper work done before drilling starts, plus other thoughts. GBED has also summarized this plus giving further thoughts on drilling recording. Both memos are attached so you should be prepared to follow and keep the drilling and results up to snuff.

Of course, the drill holes should be plotted on the geology-topo sheet for your monthly reports.

The wet-sampler mentioned should be part of any driller's equipment package along with a cyclone and three-tiered Jones splitter.

JDS:mek  
Att.

  
James D. Sell

cc: M.A. Miller  
H.G. Kreis

JAS

New York, N.Y., February 22, 1989

TO: J. D. Sell  
D. M. Smith, Jr.  
P. G. Vikre

REC'D  
FEB 27 1989  
87 Empress

1989 Drilling  
Reno-Denver-Tucson Offices

Eklund Drilling has contracted with Asarco for 70,000 ft. of RC track drill hole in the western USA during 1989. The contract includes the Ochre Spring-Gold Hill projects in Utah under Mr. Sell's supervision and the Jessie Project in Colorado under Mr. Smith's supervision. Mr. Vikre will provide Messrs. Smith, Sell and Kurtz with a copy of the contract and will call Eklund every few weeks to confirm Eklund has not forgotten about us. Technical capabilities of the drill can be learned from Mr. Vikre.

It will be the joint responsibility of you three to schedule the rig so that all contractual and assessment work deadlines are met and mobilization is minimized. Mr. Vikre recently noted that Spring weather problems could cause compression against certain deadlines and in such case a second drill may be needed for short-term work. Feel free to obtain your own rig as required, but if you do so, confirm that our 1989 or future work with Eklund is not jeopardized by reducing contracted 1989 footage and stay in mutual contract so rig scheduling does not become confused. Please mark Mr. Kurtz and I for copies of the agreed-upon drill schedule. Mr. Balla plans extensive drilling in southwestern Idaho and eastern Oregon so you should remain in contact with him and Mr. Kurtz in case Eklund or one of Mr. Balla's contractors has spare capacity which could be utilized elsewhere in our 1989 program.

Prior to drilling we will require a geologic map at an appropriate scale for locating drill holes and a cross-section(s) constructed by the geologist making the map. There will be no exceptions unless approved in advance.

Each drill must have a wet sampling device available on site at all times (regardless of the expectations for wet holes) and the drillers instructed in its use if not part of their equipment. I understand that significant experience with wet samples has been gained in the Carlin district to which Eklund must have been exposed. Ken Lovstrom markets one of his own design.

]  
]

February 22, 1989

Mr. Vikre and his staff will arrange to have an adequate wet sampler on the Eklund drill. Equipping additional drills with wet samplers will be the responsibility of the office contracting with the driller.

Logging of cuttings will be done on the drill at the time the sample is bagged for assay. Geologic samples may be saved in vials or other containers as you desire. Sample recovery will be estimated for each sample interval along with the strength of water flow -- if any -- and both recorded on the geologic log. All drill holes and relevant geology will be plotted on sections prior to receipt of assays in order that delays in compiling information are confined to assay laboratory. Please advise your geologists to complete their logs neatly and on site so there will be no need for additional copying or paperwork other than entering assays when received. An efficient logging format will help. I would prefer a uniform log format, but know you prefer your own designs.

Mr. Kurtz and I plan field reviews of your drill projects and do not wish to be unpleasantly surprised by poor procedures, inadequate equipment, or sloppy housekeeping. You may also anticipate un-planned visits from Mr. Brown. I expect you are as pleased as I am with budgeting for drill holes so let's make the most of it.

*F. T. Graybeal*

F. T. Graybeal

FTG:mc

cc: W. L. Kurtz  
J. C. Balla

March 1, 1989

RECEIVED

MAR 3 1989

EXPLORATION DEPARTMENT

To: Q.J. Browne  
D.I. Fletcher  
F.R. Koutz  
B.J. Maher

From: P.G. Vikre

### 1989 GBED Drill Projects

In order to synchronize and review data pertaining to projects that will be drilled in 1989 and in subsequent years, GBED needs the following documentation:

→ (1) Drill Report Form - will include standardized drill hole logs, including assays, with 1"=500' drill hole location topographic maps attached. Examples of drill hole logs are attached to this memorandum and you are requested to collectively modify it into a form acceptable to all. Envoy F.R. Koutz will discuss the modified form with me and distribute the "final" drafted version.

→ (2) Geologic Map and Section(s) - are required two weeks prior to drill rig mobilization. Maps and sections are to have a scale no larger than 1"-500'. They may be (neatly) hand drafted and colored, and I need two complete copies. Existing project maps, if they meet the scale requirements, may be used but geologic sections through proposed drill holes are to be constructed without exception.

→ Also, Notices of Intent to Explore or Plans of Operations need to be filed with the BLM no later than April 1, 1989. As you know, the BLM tends to respond or make decisions slowly, especially when environmentally sensitive land is involved. Discuss with me the hole location map and format of the BLM letter. Hole locations might turn out to be fictitious but if the actual drilling takes place within the same area and proposed scope, the BLM may require only verbal notification of slight changes.

→ All drill rigs utilized by ASARCO need to have a wet sample splitter, whether provided by the contractor or by ASARCO. Said splitter will be used when the sample is "wet" and all drilling personnel will be instructed in its use.

→ As in previous years, all holes will be logged and vialled on site using the NEW GBED LOGGING FORM (1) above. Please keep track of % sample recovery and water flow (gpm) on the form. On the cross sections compiled prior to drilling, (2) above, one can plot holes and geology also on site so that the only remaining data to be added are Au, et al. analyses.

Memo to All  
March 1, 1989  
Page two

GBED has tentatively arranged with Eklund Drilling Company for exclusive use of a Drillsystems track RC rig from May through October. Upon discussion with each of you, I will formulate a drilling schedule. Since we usually are confronted with insufficient drilling capacity to meet the September 1 assessment deadline for all projects, I need candidates for early (April-May)- drilling, perhaps by a second contractor. Reliable drills do not exist for small footages during the month of August.

Yours truly,



Peter G. Vikre

PGV:mar

cc: W.L. Kurtz  
F.T. Graybeal





DECONCINI McDONALD BRAMMER YETWIN & LACY, P. C.

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RICHARD L. BARNES  
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NORMAN H. KOTLER \*  
JAMES A. JUTRY  
\*PHOENIX OFFICE

February 12, 1982

Mr. Robert B. Crist  
ASARCO, Inc.  
Mining Department  
P. O. Box 5747  
Tucson, Arizona 85703

Mr. Leonard C. Halpenny  
Water Development Corp.  
3938 Santa Barbara Avenue  
Tucson, Arizona 85711

Gentlemen:

I have reviewed the water resources regulations related to mineral exploration drilling, and pursuant to our discussions I suggest the following:

Two definitions should be added to R12-15-801 as follows:

"Mineral exploration holes" shall mean holes drilled in search of or testing for oil, gas, minerals, or geothermal resources.

"Drinking water aquifer" means an underground aquifer used or projected as a source of potable water for a domestic water supply as designated by the Department.

The existing R12-15-814 should be renumbered to R12-15-815 and new R12-15-814 inserted as follows:

A. Prior to drilling, the Department shall be furnished with a Notice of Intention to Drill containing the following information:

Mr. Crist  
Mr. Halpenny  
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February 12, 1982

1. The name and address of the notifying person or entity;

2. The township and range of the public land survey system in which the drilling will be done;

3. A description of holes to be drilled by diameter, depth as either less than or more than 500 feet, and type of casing if any;

4. The date drilling will commence;

5. The estimated number of holes to be drilled;

6. The name and address of the drilling contractor if the drilling is to be done by a drilling contractor; and

7. The proposed method of abandonment of drill holes.

B. If a mineral exploration hole is drilled in any drinking water aquifer, or if any such hole encounters an artesian aquifer, the person or entity filing the Notice of Intention shall, within 30 days after abandonment of such drill hole, file a completion report for each hole drilled containing the following information:

1. The name and address of reporting person or entity;

2. The name and address of the drilling contractor if the drilling was done by a drilling contractor;

Mr. Crist  
Mr. Halpenny  
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3. A description of the location of the hole by reference to a section or quarter corner of the public land survey system;

4. The type of casing used (if any);

5. The method of abandonment and materials used; and

6. A log of the hole indicating the depth of unconsolidated formation and the depth to water in feet below the land surface if detected, if such information can be ascertained.

C. If a mineral exploration hole is converted to a well for production or monitoring of water, the well shall be constructed in accordance with the provisions of R12-15-809 and abandoned in accordance with the provisions of R12-15-812.

D. All mineral exploration holes shall be drilled using drilling fluids common in the industry or such other substances as drilling lubricants, or such other substance as may from time to time generally approved by the Department or specifically approved pursuant to written application by the driller.

E. Abandonment of mineral exploration holes not within a drinking water aquifer shall be accomplished by backfilling with drilling mud, clay, drill cuttings, silt, sand, solidifying gels, or mixtures of these materials, capped at the top with a welded plate, one foot below land surface.

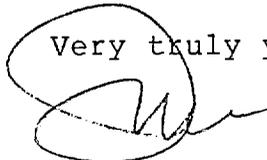
F. Abandonment of mineral exploration holes within a drinking water aquifer or those encountering a discernible artesian aquifer shall be

Mr. Crist  
Mr. Halpenny  
Page Four  
February 14, 1982

abandoned by: 1. If the hole is cased through the drinking water aquifer and the casing cannot be removed, abandonment shall be as set forth under subsection E. of this section. \*\*

I would appreciate your comments and filling in the blanks.

Very truly yours,



John C. Lacy

JCL:crc

\*\*2. If the hole is not cased through the drinking water aquifer or if the casing is removed, abandonment shall be under subsection D and E of section R12-15-812.

3. The hole shall be capped with a welded plate, one foot below land surface, plug from land surface to a minimum depth of 2 feet.