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James Doyle Sell Mining Collection

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ASARCO

Southwestern Exploration Division

November 2, 1978

FILE MEMORANDUM

Deep Drilling Potential
Arizona

Mr. Floyd Moulton of the Anschutz Corporation, Denver, was the AGS speaker of Oct. 31, 1978. His paper was entitled "The Utah-Arizona Hinge-line Thrust Belt . . . ."

The basic premise is that by gravity, magnetics, and deep seismic, plus available geology, they can put together a reasonable picture of rock units to a depth of 40,000-60,000 feet, and what they indicate is that the basin-range area of Arizona is underlain by two and possibly three overthrust sheets with thick Paleozoic and Mesozoic sections being emplaced at these great depths.

I have attached the newspaper note of the meeting, a hand-out sheet on the "Proposal of Study," and the hand-out sheet for "Participation Contract."

After the field work is completed, they intend to drill a number (6 more or less) of holes to the 10 to 20-thousand-foot depth to confirm the existence of these thrusts and rock sections, and if continued favorable results evolve, then 30-thousand-foot holes will be programed (at perhaps $16 million per hole).

Proposed early holes will be at Red Lake (Kingman), North Gila Bend (60 miles west of Phoenix), and in Cochise County.

James D. Sell

James D. Sell

JDS:lb
Atts.

E. L. (GENE) HOWARD
President

TERRASCAN Group INC.

321 E. 18th AVENUE / SUITE 205
DENVER, COLORADO 80202

(303) 831-4261 Office
(303) 234-0640 Home

TERRASCAN Group INC.
11219 West 27th Ave. Lakewood, Colorado 80215 (303) 234-0640

Eugene L.Howard
President

July 27, 1978

RE: PROPOSAL FOR HYDROCARBON POTENTIAL STUDY OF HINGELINE-OVERTHRUST BELT.

Gentlemen:

PROPOSAL

This letter is a proposal to your company by TerraScan Group to conduct a Hydrocarbon Potential Study of the Hingeline-Overthrust areas of Utah, Nevada, Mexico, and Arizona. The overall area to be studied is outlined on the enclosed index map.

INTRODUCTORY DISCUSSION

The recent discoveries of large petroleum reserves along the overthrust belt in southwestern Wyoming and northeastern Utah have changed many of the old ideas about oil exploration techniques. It is not without reason that the increased interest in this region is now spreading to include the entire Cordilleran Orogenic Belt from Montana to Mexico in an effort to fit more of these areas into the "mold" of the overthrust success story. In the not too distant future without a doubt more hydrocarbon accumulations will be discovered under similar structural conditions, but in reality we may have only scratched the surface of the true solution to the exploration problem.

In western Utah explorationists are slowly beginning to recognize that there is potential along what has been called the "Fillmore Arch" and all the area west of the Jurassic Age Sanpete-Sevier Rift where this area is isolated from the Colorado Plateau and has not been affected by tilting or dissection. Recent work has proven that the true position of the middle Mesozoic hingeline lies along the west flank of the Fillmore Arch. This hingeline has not as yet been evaluated and the potential facies development and associated potential for hydrocarbons along such a feature is virtually unlimited.

In Nevada the same overthrust play as in Utah is projected into the southwestern corner of the state. Windows of Paleozoic and Mesozoic rocks are variously folded and faulted along the frontal edge of the overthrusted Sevier Belt and the better exposed thrust faults west and north of Las Vegas.

In Arizona the picture is not as complete, but there is evidence that an overthrust belt does exist. Recent work indicated that, although obscure, there is continuity to prove that the relationship between the Nevada and Chihuahua overthrust belts is continuous without major interruptions and that complications are the result of pre-orogenic and post-orogenic events. The Sonoran and Arizonan portions of the overall thrust belt are now recognized as events that occurred in late Laramide. This thrusting positioned detached rocks of various Precambrian and Paleozoic ages over a sequence of marine Cretaceous sediments that have been estimated to be over 30,000 feet thick. This section is similar to the productive marine rocks in Mexico.

Recent information from Mexico has defined the Sonoran Trough as trending out of Mexico to the northwest and under the thrusting in south-central and western Arizona.

THE TERRASCAN PROGRAM

There is an abundance of surface and subsurface information available in all the areas mentioned above. Unfortunately very little of this information has been utilized to evaluate these areas for oil and/or gas potential. The primary objective of TerraScan's program will be to integrate all of this available data with a series of additional studies outlined below that we feel will be necessary to properly evaluate and grade the hydrocarbon potential of these areas. As the index map indicates we have separated the overall study area into north and south sections. We felt that this was necessary because:

1. Although these areas are orogenically related, they do have distinctive structural and stratigraphic characteristics that for exploration purposes make them dissimilar.

2. These differences being what they are, we would not want to force potential clients away from the program by not offering these areas on either a combined or separate basis.

Additional studies in Arizona, Nevada, Mexico, and Utah.

1. A six man-month field program will be carried out to collect samples for a geochemical source rock determination study. A minimum of 200 samples will be collected in each area and analyzed for total organic carbon with a more complete analysis to be run on selected samples that warrant kerogen and vitronite determinations.

2. A two to four man-month field investigation of reservoir rock facies at all levels in the stratigraphic column, with porosity and permeability determinations.

3. Complete coverage by LANDSAT photo imagery for locating and evaluating regional linears, subtle geomorphic anomalies, or other events defined by remote sensing.

Studies in Arizona only.

1. A geothermal gradient study will be done to determine if there are any "hot spots" in Arizona that might have some effect on the preservation or destruction of available hydrocarbons.

2. A special study will be conducted in selected areas of southern Arizona to determine the relationship between metamorphosed upper plate rocks and unmetamorphosed lower plate sediments.

Data to be provided in the report.
(Note: All maps provided will be on a scale of 1:500,000).

1. Isopach maps of all major stratigraphic units.

2. Lithofacies maps of all potential reservoir rocks.

3. Regional structural map with major tectonic trends.

4. Correlation charts with palinspastic reconstruction of major units.

5. Final report containing a summary of structural and stratigraphic history of both areas; an analysis of the results determined in all studies and a comprehensive discussion of those areas that have the best potential for future exploration.

SCHEDULE AND SUBSCRIPTION RATES

These program areas are offered both as a divided or undivided package. The fees to participate in the projects are as follows:

Combined areas I and II	$32,500.00
Area I only	$18,500.00
Area II only	$17,000.00

As an added incentive there will be a reduction in the cost to the first four participants who sign up for either one or both programs. The amount of reduction will be determined at a fixed rate of 5 percent of the original cost per client signed over 4 to a maximum of 9. If in the event that 9 clients sign, the original 4 participants would realize a reduction of 25 percent in their original purchase price.

Both programs are scheduled to commence on September 15. 1978. Participating companies will have the exclusive rights to use the materials, maps and analyses for a period of six months from delivery of the final reports. After six months TerraScan Group, Inc. will have the right to resell the report, maps and data derived as a result of these studies.

As an additional offer to participating companys in the Hingeline-Overthrust program, TerraScan will give an option to purchase the Eastern Great Basin Program (see blue area on index map) at a reduced rate when it will be released from it's exclusive status at the end of December. The fee for the Great Basin program is scheduled to be $32,500.00. The option fee would be set at $25,000.00 for participants who elect to purchase the proposed study.

ADDITIONAL PROGRAMS

Within 30 days TerraScan, Lisle Associates and Edcon will offer additional programs for gravity and magnetics in both areas I and II.

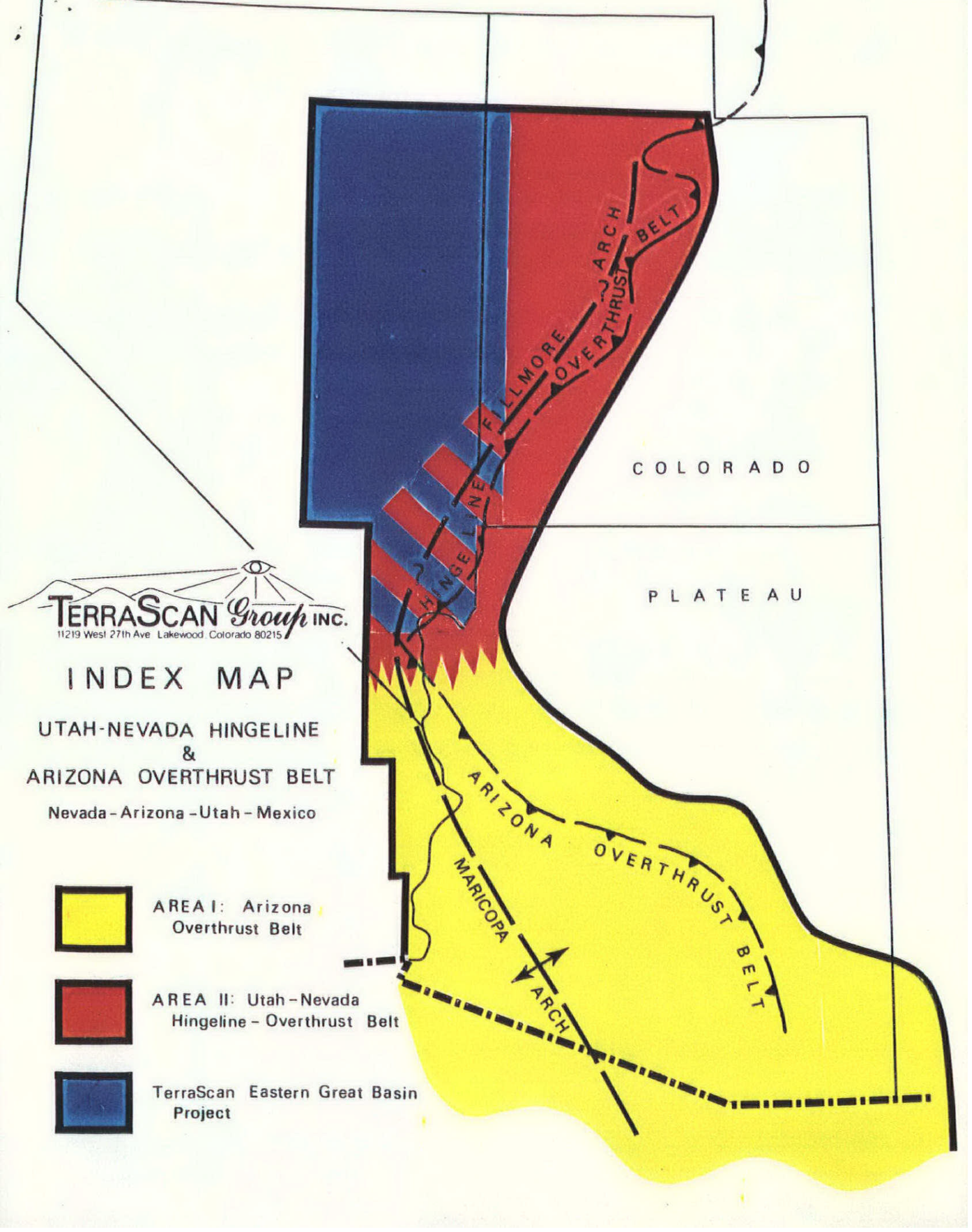
If there are any questions about the programs please do not hesitate to call us for additional information.

Sincerely,

E.L. Howard
President TerraScan Group, Inc.

mv:ELH
Enclosure

TERRASCAN Group INC.


TERRASCAN Group INC.
11219 West 27th Ave Lakewood Colorado 80215
INDEX MAP
UTAH-NEVADA HINGELINE
&
ARIZONA OVERTHRUST BELT
Nevada - Arizona - Utah - Mexico
AREA I: Arizona Overthrust Belt
AREA II: Utah - Nevada Hingeline - Overthrust Belt
TerraScan Eastern Great Basin Project
COLORADO
PLATEAU
FILLMORE ARCH
OVERTHRUST BELT
HINGELINE
ARIZONA OVERTHRUST BELT
MARICOPA ARCH

PARTICIPATION CONTRACT

TerraScan Group, Inc.
11219 West 27th Avenue
Lakewood, Colorado 80215

Date:

Gentlemen:

We would like to participate and receive the Geologic and Hydrocarbon Potential Study of the Hingeline-Overthrust Belt areas of Utah, Nevada, New Mexico, Arizona and northern Mexico as outlined in your original proposal letter of July 27, 1978, under option ___ as listed below.

Option "A". We agree to pay TerraScan Group, Inc. $32,500.00 ($36,000.00 if purchased after October 15, 1978) for the combined Geologic and Geochemical Programs of Area I (Arizona, New Mexico Overthrust Belt) and Area II (Hingeline Overthrust Belt of western Utah and southeastern Nevada).

Option "B". We agree to pay TerraScan Group, Inc. $18,500.00 ($20,000.00 if purchased after October 15, 1978) for the Geologic and Geochemical Study of Area I (Arizona, New Mexico Overthrust Belt).

Option "C". We agree to pay TerraScan Group, Inc. $17,000.00 ($18,500.00 if purchased after October 15, 1978) for the Geologic and Geochemical Study of Area II (Hingeline-Overthrust Belt of western Utah and southeastern Nevada).

We further agree that within (20) days after the date of this contract we will pay fifty (50) percent of the price of the study or studies under the option chosen above. We further agree and understand that we will be billed for an additional twenty five (25) percent of the cost of the selected program ninety (90) days after the first billing date and will pay the remaining balance upon completion and final delivery of the study or studies.

We understand that TerraScan Group, Inc. will exercise its best judgment in the preparation and supervision of data collection, interpretations, maps and the final reports. It is also understood and agreed that TerraScan Group, Inc. shall not be liable under any conditions for any damages due to inaccuracy of the maps or any data supplied by them. Though TerraScan Group, Inc. shall use their best efforts to keep the data and maps free of errors, they do not guarantee their accuracy.

We understand and agree that all data, maps, reports, and interpretations are copyrighted materials, registered with the U.S. Register of Copyrights. We agree that recognition of this copyright forbids us to give, sell or loan any of this information to a third party or parties.

Please deliver all communications, data, maps and the completed report to the individual at the address listed below.

AGREED AND ACCEPTED:

TerraScan Group, Inc.

_____
By

_____
Title

_____
Date

Sincerely yours,

_____
Company

_____
By

_____
Title

_____
Street

_____
City State Zip

Salt = Jurassic ? in Idaho-Utah. Arg is dated Tert but has Jurassic polymorphs & hence — the "mother" may be Jurassic & later emplaced with Tert sites.

Red Lake, Arg (Kensington)
40,000 ft of Ms (seismic. They will drill.
Thrusting preceded Tertiary basin collapse

North Gila Bend Seismic line

4½ million acres under lease.

(Idaho — piggyback thrust indicate 39 mile of west to east transport prior to an underlying thrust being developed & moved eastward with piggyback of older thrust units.

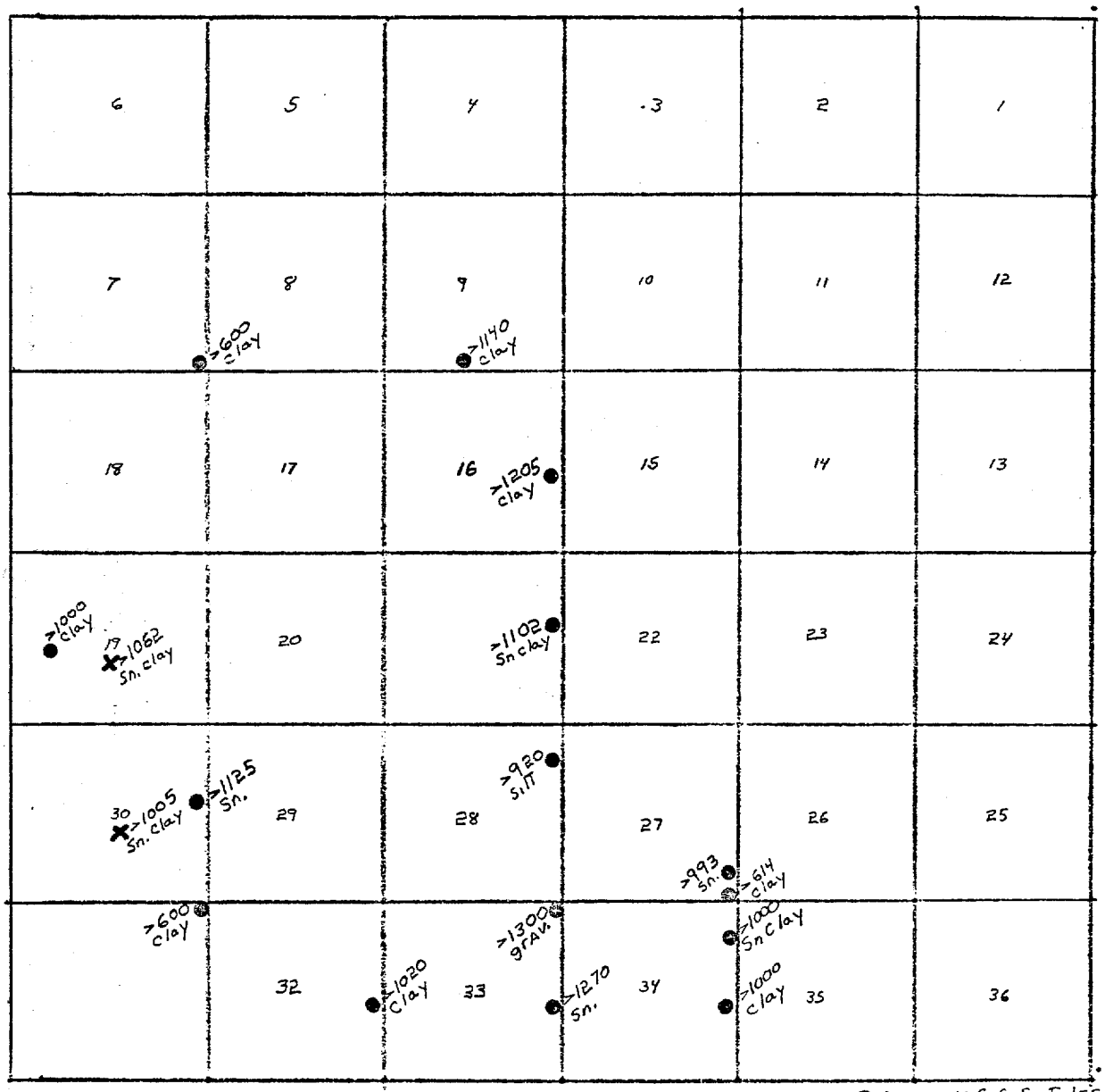
See Am Jour Sci 1975 — Burchfiel & Davis.

20 - 30 thousand ft of Paleozoic-Mesozoic below lower thrust plate. May be 2 or 3 plates.

10-15-20 thousand foot hole.

30000 | 5 / 16 of 100

T. 2 S., R. 8 E.



SCALE 1:62,500

T2S, R8E

(D-2-8)

3/7/73

>600 clay	7ddd TD 600	U.S.G.S FILE 548-600 HARd clay
>1140 clay	9cdd TD1140	U.S.G.S FILE 1075-1140 SANdy clay
>1205 clay	16 daa2 TD 1205	U.S.G.S FILE 1154-1205 SANdy clay
	17 ddd TD 600	U.S.G.S FILE NO log
>1000 clay	19 cbb TD 1000	USG.S. FILE 975-1000 clay
>1062 Sn. clay	19 TD 1062	U.S.G.S FILE 980-1062 SANdy clay
>1102 Sn clay	21add TD 1102	U.S.G.S FILE 1075-1102 SANdy clay
>993 Sn	27 dda TD 993	U.S.G.S. FILE 964-993 FINE SAND
>614 clay	27 ddd TD 614	U.S.G.S FILE 600-614 clay
>920 SILT	28 aad TD 920	U.S.GS FILE 913-920 SILT
>1005 Sn. clay	30 TD1005	U.S.G.S FILE 855-1005 SANdy clay
>1125 Sn	30add TD 1125	U.S.G.S FILE 1115-1125 FINE SANd.
>600 clay	31aaa TD600	U.S.G.S FILE 410-600 HARd clay
>1020 clay	32 daa TD1020	U.S.G.S FILE 1010-1020 clay
>1300 grav.	33 aaa2 TD 1300	U.S.G.S FILE 1240-1300 VERY good gravel - VARIGATED colors
>1270 Sn.	33 daa TD 1270	U.S.G.S FILE 1220-1270 FINE SANd
>1000 Sn Clay	34aad TD1000	U.S.G.S FILE 810-1000 SAND, brown clay
>1000 clay	34daa TD 1000	U.S.G.S FILE 975-1000 clay

T. 2 S., R. 9 E.

6	5	4	3	2	1
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31	32	33	34	35	36

SCALE 1:62,500

2S, 9E

(D-2-9)

3/9/73

NO INFO AT THIS TIME

T. 2 S., R. 10 E.

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30	29	28	27	26	25
780 BR. 31	32 >1007 cgl 5' 1020 volc.	33	34	35	36

● DATA U.S.G.S. FILES

SCALE 1:62,500

2S, 10E

(D-2-10) 3/9/73

	8ccc TD 437	U.S.G.S File NO log
	24abb TD 524	U.S.G.S File NO log
⊙ 780 BR.	31abb TD 780	U.S.G.S File 190-780 gravel & sn. 780 Bed Rock
X >1007 cgl.	32 TD 1007	U.S.G.S File 980-1007 Cgl.
X 1020 Volc.	32 SW1/4 TD 1020	East Lantron Oil Co. 1020 in Volc.

NAME OF HOLE (STATE-1)

T. 2 S., R. 11 E.

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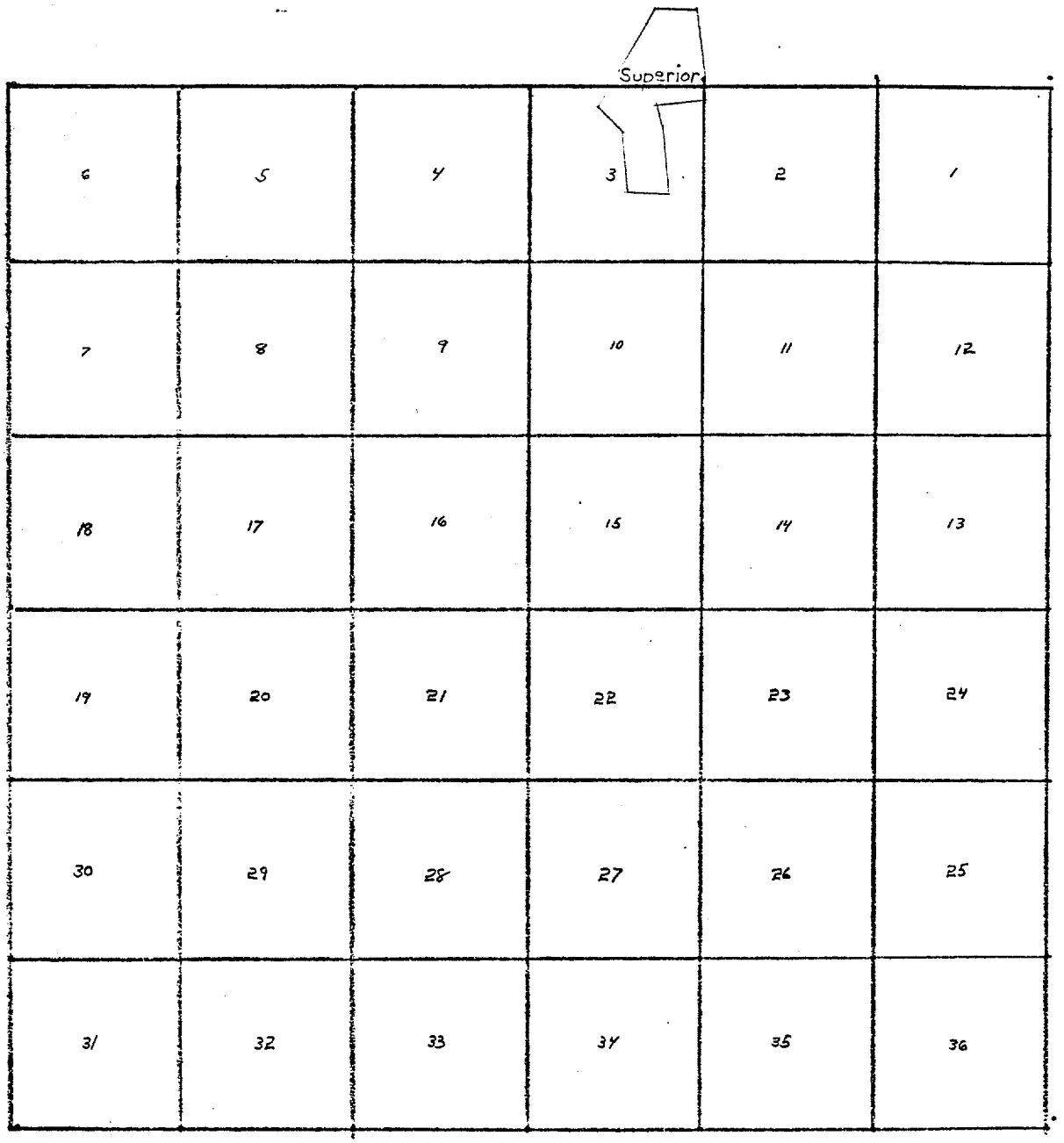
2S, 11E

(D-2-11)

3/9/73

NO INFO AT THIS TIME

T. 2 S., R. 12 E.



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2S, 12E

(D-2-12)

3/9/73

NO INFO AT THIS TIME

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31	32	33	34	35	36

SCALE 1:62,500

2S, 13E

(6-2-13)

3/9/73

NO INFO AT THIS TIME

T. 2 S., R. 14 E.

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SCALE 1:62,500

2S, 14E

(D-2-14) 3/9/73

NO INFO AT THIS TIME

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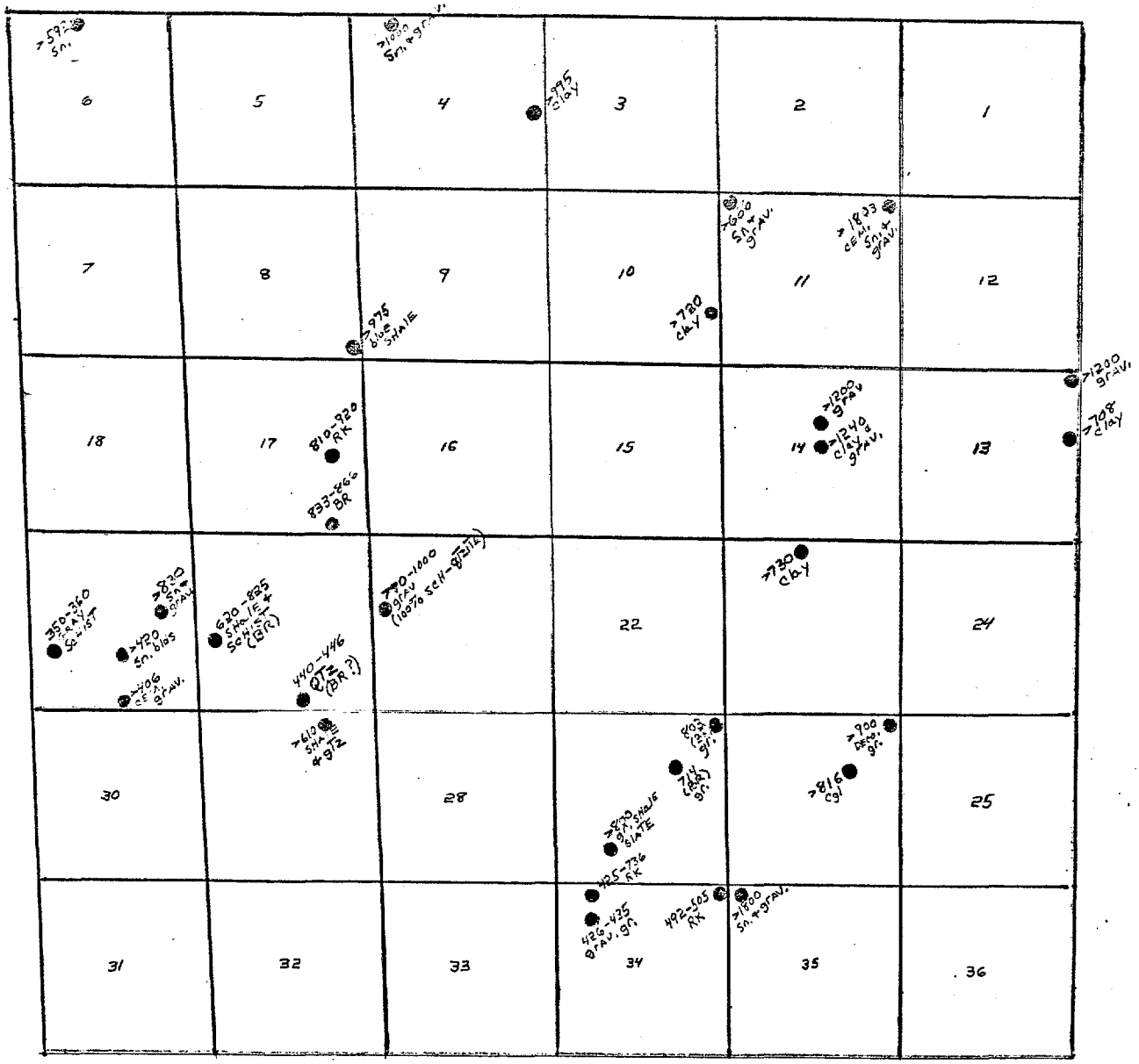


● DATA USGS FILE

SCALE 1:62,500

35, 8E

(D-3-8) 2/6/73

>1000 Sn + grav.	4bba TD 1000	U.S.G.S. 970-1000 Sn. & grav.
>955 clay	4daa TD 955	U.S.G.S. 940-955 clay
>592 Sn	6baa TD 592	U.S.G.S. 583-592 Hard Sn.
	6daa TD 2422	NO log.
>975 blue shale	8ddd TD 975	U.S.G.S 970-975 BLUE SHALE
>720 clay	10dad TD 720	U.S.G.S 660-720 clay, VERY THIN STKS. OF Sn.
>1803 cem. Sn. + grav.	11aaa TD 1803	U.S.G.S 1780-1803 CEMENTED Sn + grav.
>666 Sn + grav.	11bbb TD 666	U.S.G.S 570-666 STREAKS OF clay, Sn. + grav.
>1200 grav.	13aaa2 TD 1200	U.S.G.S 890-1200 CEM. grav.
	13abb TD 700	NO log
>708 clay	13add TD 708	U.S.G.S. 700-708 clay
	14aaa TD 707	No log
>1200 grav.	14acb TD 1200	U.S.G.S. 890-1200 CEM grav.
>1240 clay + grav.	14acc TD 1240	U.S.G.S. 820-1240 clay + grav. STRATAS
	14dca TD 600	NO log
	15daa 650	NO log
	15bab 650	NO log

(CONT.)

(CONT.)

(D-3-8) 2/6/73

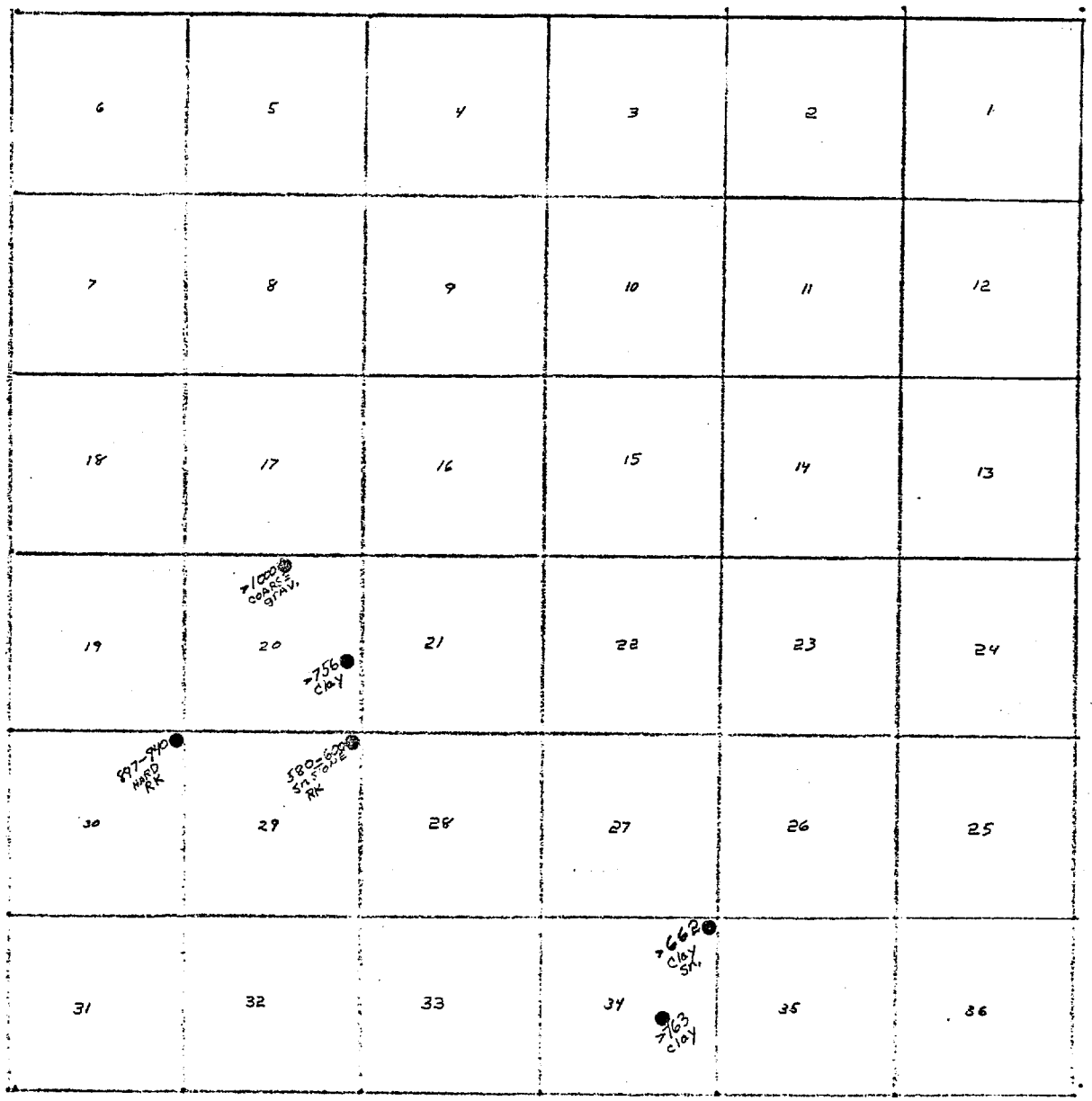
810-920 RF	17 dab TD 920	U.S.G.S. 810-920 HARD SHARP ROCK (U.S.G.S SAY BR. AT 810)
833-866 BR	17ddc TD 866	U.S.G.S 833-866 MOUNTAIN FORMATION (U.S.G.S BR. AT 833)
>830 Sn & grav.	19adc TD 630	U.S.G.S 830' SN. FINE TO VERY COARS. 85% quartzite 10% GRANITES 5% QUARTZ.
>420 Sn. blds	19dcc TD 420	U.S.G.S 70-420 SHALE, SAND, boulders
>406 CEM. grav.	19dcc TD 406	U.S.G.S. 400-406 CEM. grav, VERY HARD (U.S.G.S. G.)
620-825 SHALE & SHIST (BR)	20cbb TD 825	U.S.G.S. 620-825 SHALE + SHIST (U.S.G.S G.-BR.)
440-446 QTZ. BR?	20dcc TD 446	U.S.G.S. 420-440 PARTLY CEM. FORMATION. 440-446 QUARTZ (U.S.G.S QTZ? BR?)
790-1000 grav (100% QTZ)	21bcc TD 1000	U.S.G.S. 790' MUCH GRAV. 1000' 100% SCHISTOSE QUARTZITE
	22add TD 1000	NO log.
>730 clay	23baa TD 730	U.S.G.S 711-730 clay
>900 DECOM. gr.	26aaa TD 900	U.S.G.S. 796-900 DECOM. GRANITE HEM. BEFOR AT 416 ON DOWN clay & cgl. INTERMINGLED.
>816 cgl.	26aca TD 816	U.S.G.S. 785-816 CEM. cgl.
803 (BR) gr.	27aaa TD 811	U.S.G.S. 803-811 GRANITE (U.S.G.S BR.)
714 (BR) gr	27aca TD 914	U.S.G.S. 749-914 HARD DECOM. GRANITE BATTERED DRILL BITS (U.S.G.S SAY BR AT 714)
>800 gr, SHALE & SLATE	27cdb TD 800	562-800 GRANITE WITH STREAKS OF SHALE & SLATE
>610 SHALE & QUARTZ	29aba TD 610	520-610 blue SHALE & QUARTZ.

(CONT.)

(D-3-8) 2/6/73

497-505 RK	34aaa TD 505	U.S.G.S. 497-505 solid Rock (U.S.G.S BR)
425-736 Rock	34bba TD 736	425 TO 736 ROCK IS MENTIONED EVERY TIME GRAY ROCK AT 715 TO 736.
426-435 SM. J. GRANITE	34bbd TD 435	426-435 CEM. GRAV. GRANITE.
→ 1800 SM. GRAV.	35bbb TD 1800	710-930 SILTSTONE SOME 650-1800 GRAY SCHISTONE quartzite 75% GRANITICS 20% QUARTZ 5% SM. + GRAV.
350-360 GRAY SCHIST	19cbd TD 360	U.S.G.S. 350-360 blue GRAY SCHIST PENDING FILE U.S.G.S.

T. 3 S., R. 9 E.



● DATA USGS FILE

SCALE 1:62,500

35, 9E

(D-3-9) 2/6/73

>756 clay	20daa TD 757	U.S.G.S. 750-756 Hard SHELL clay
>1000 COARSE grav.	20abb TD 1000	U.S.G.S. 840-1000 VERY good COARSE grav. - SOME granetic bld's.
580-600 SN. STONE RK	29aaa TD 600	U.S.G.S. 580-600 SANDSTONE & ROCK (U.S.G.S. G.)
897-940 HARD RK	30aaa TD 940	U.S.G.S. 897-940 HARD ROCK
	30ada TD 650	NO log.
>662 clay SN.	34aaa TD 662	U.S.G.S. 655-662 clay & HARD Sn.
>763 clay	34dba TD 763	760-763 STICKY clay

T. 3 S., R. 10 E.

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SCALE 1:62,500

3S, 10E

(D-3-10)

2-6-73

NO INFO TO DATE

T. 3 S., R. 11 E.

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SCALE 1:62,500

3S, 11E

(D-3-11)

2-6-73

NO INFO TO DATE

T. 3 S., R. 12 E.

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31	32	33	34	35	36

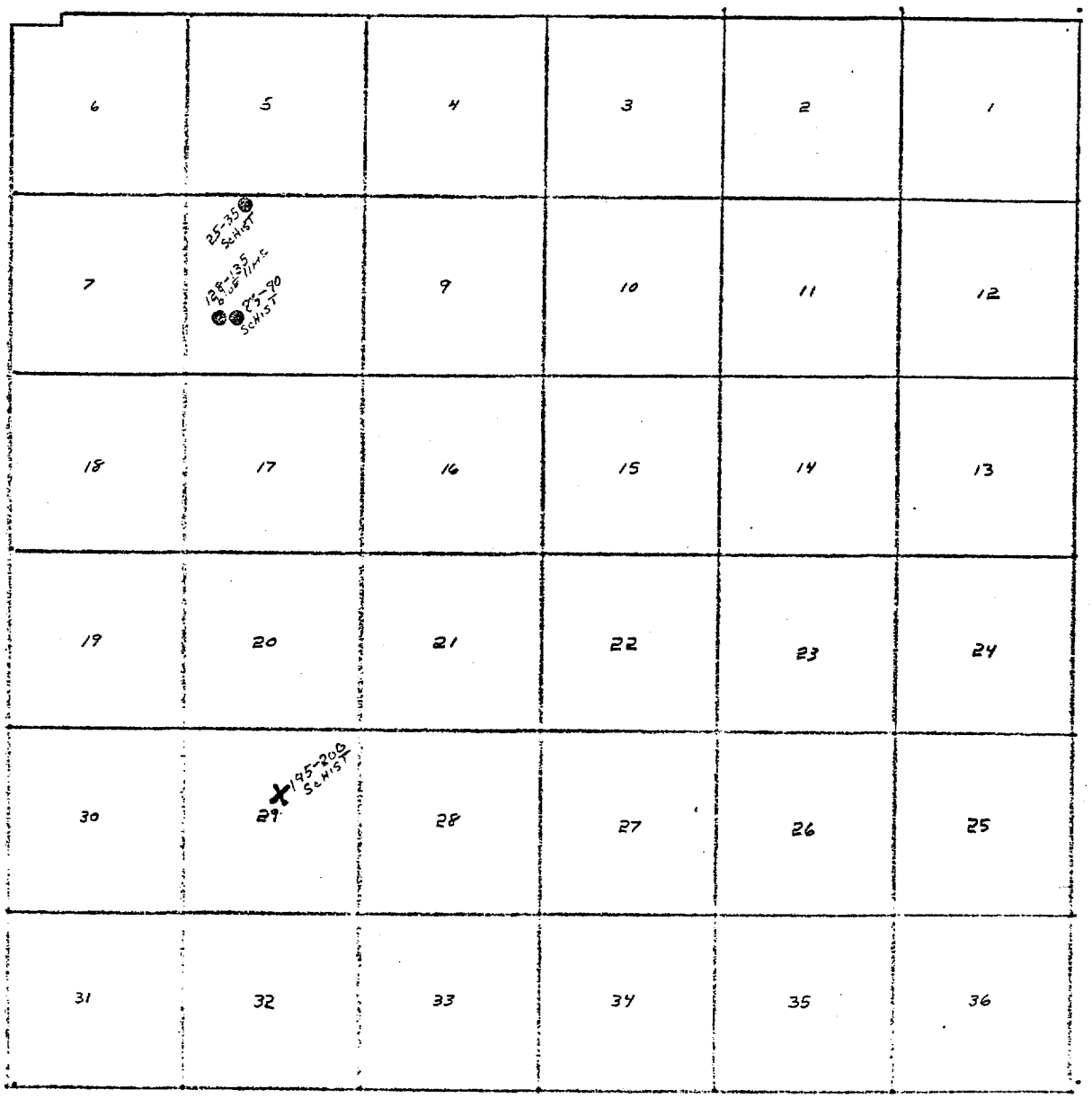
SCALE 1:62,500

3S, 12E

(D-3-12) 2-6-73

No Info to Date

T. 3 S., R. 13 E.



● DATA USGS FILE

X GENERAL LOCATION DATA POINT

SCALE 1:62,500

3S, 13E

(D-3-13)

2/6/73

25-35 SCHIST	8bab TD 35	U.S.G.S. 25-35 RED SHIST
86-90 SCHIST	8cac TD 90	U.S.G.S 86-90 SHIST - HARD - WITH SHARP quarty cuttings
128-135 blue lime B.R.	8cbd TD 128	U.S.G.S 115 - 128 SANDY lime 128-135 blue lime BED ROCK EXTREMLY HART NO WATER IN THIS HOLE
X 195-200 SCHIST	29 TD 200	U.S.G.S 195-200 SCHIST BROWN VERY LITTLE MUD

T. 3 S., R. 14 E.

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7	8	9	10	11	12
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30	29	28	27	26	25
31	32	33	34	35	36

X GENERAL LOCATION DATA POINT

SCALE 1:62,500

35, 14E

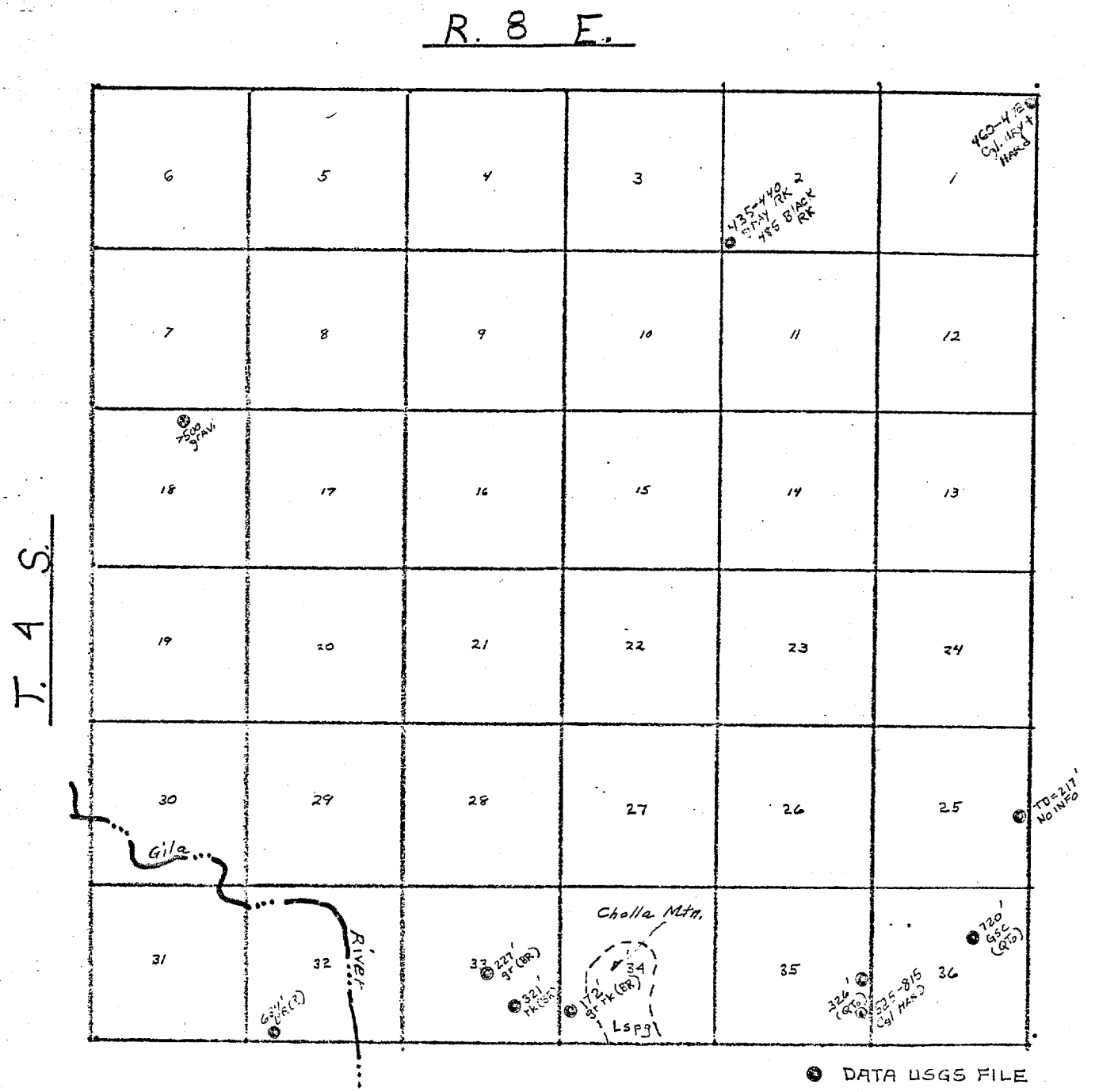
(D-3-14)

2/6/73

USGS

14dc

No TD or log



SCALE 1:62,500

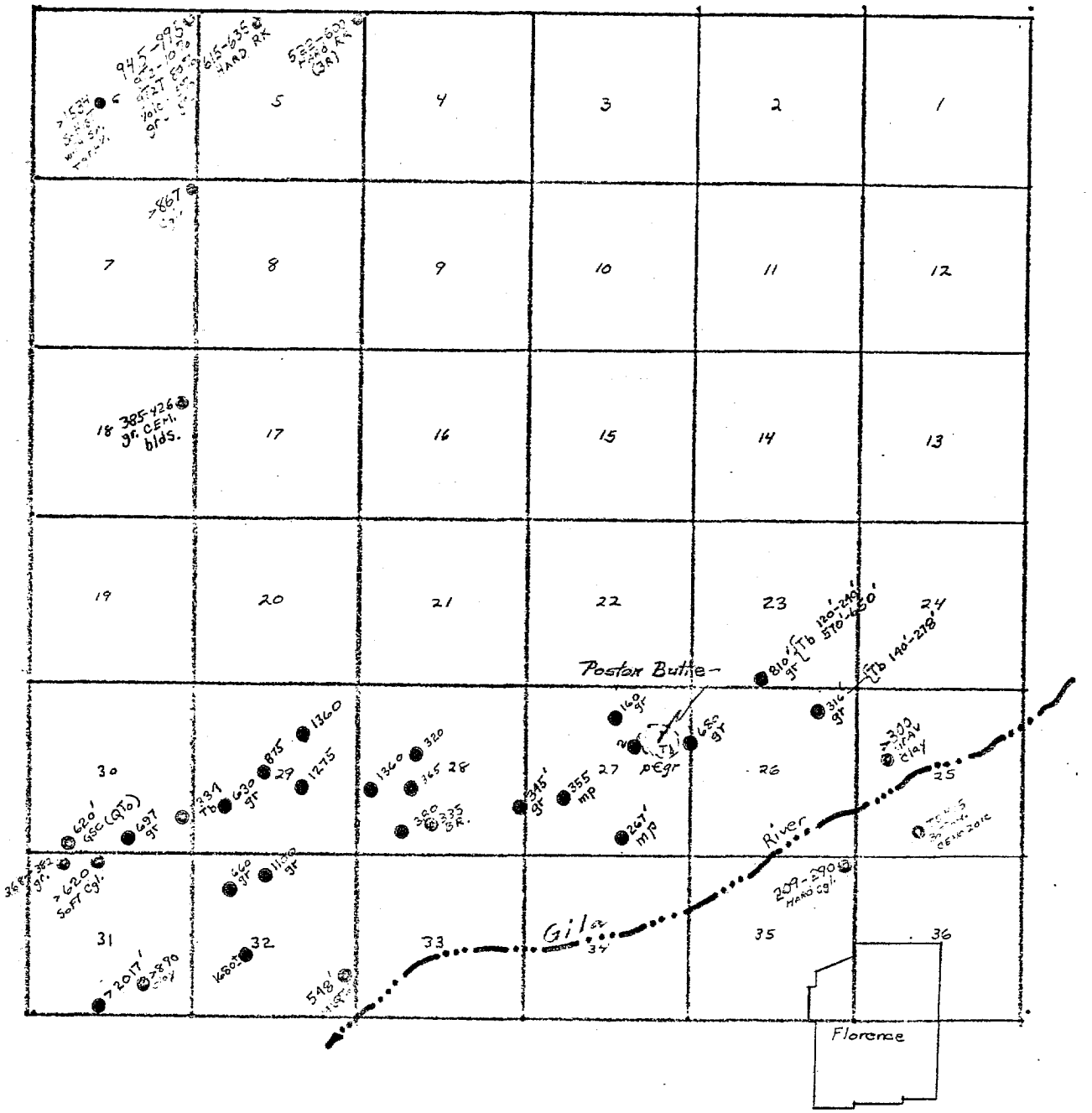
45, 8E

12/20/72

(D-4-8) 435-440 gray Rock 485 Black RK	2 ccc TD 485	SLD 430-435 DECOM. GR. 435-440 gray Rock 485 HARD BLACK ROCK
	27 daa TD 217	NO Log
227 gr (BR)	33 dbb, TD 227	SLD 194-227 HARD ROCK (GRANITE) (USGS SAY BR)
	33 dbb 2 TD 131	SLD 98-131 HARD ROCK (GRANITE) (1/HR)
321 RK (BR)	33 ddb TD 321	SLD 280-321 ROCK (USGS SAY BR)
171 gr. rk (BR)	34 ccb TD 172	SLD 90-172 GRANITE ROCK (U.S.G.S SAY BR)
TD=217 NO INFO.	25 daa TD 217'	M.E. COOLEY'S MAP NO INFO
	32 cdd TD 634	M.E. COOLEY'S MAP BR (?) (PROBABLY 32cdd IS 32ccd BELOW)
326 (QTo)	35 daa TD 326'	M.E. COOLEY'S MAP (QTo)
720 GSC (QTo)	36 aca TD 720'	M.E. COOLEY'S MAP GSC (QTo)
460-472 cgl. dry & HARD	1aaa TD 472	U.S.G.S. log 460-472 cgl. dry + HARD
608-634 HARD QUARTZ	32 ccd TD 634	U.S.G.S. log 558-608 BROKEN QUARTZ + cgl. 608-634 HARD QUARTZ
7500 grav	18abb TD 500	U.S.G.S 490-500 HARD PACKED GRAV. PENDING FILE AS U.S.G.S.
525-815 Cgl. HARD	35 dda TD 815	420-494 LMS + clay 494-525 cgl. 525-815 cgl.-HARD PENDING FILE AT U.S.G.S.

R. 9 E.

T. 4 S.



● ASARCO - SELECTED POSTON BUTTE PROJECT HOLES (FIGURES = DEPTH TO BR)

● DATA USGS FILE

NOTE: SEE ASARCO PROJECT FILES FOR LOGS - ADDITIONAL DATA.

SCALE 1:62,500

4S, 9E

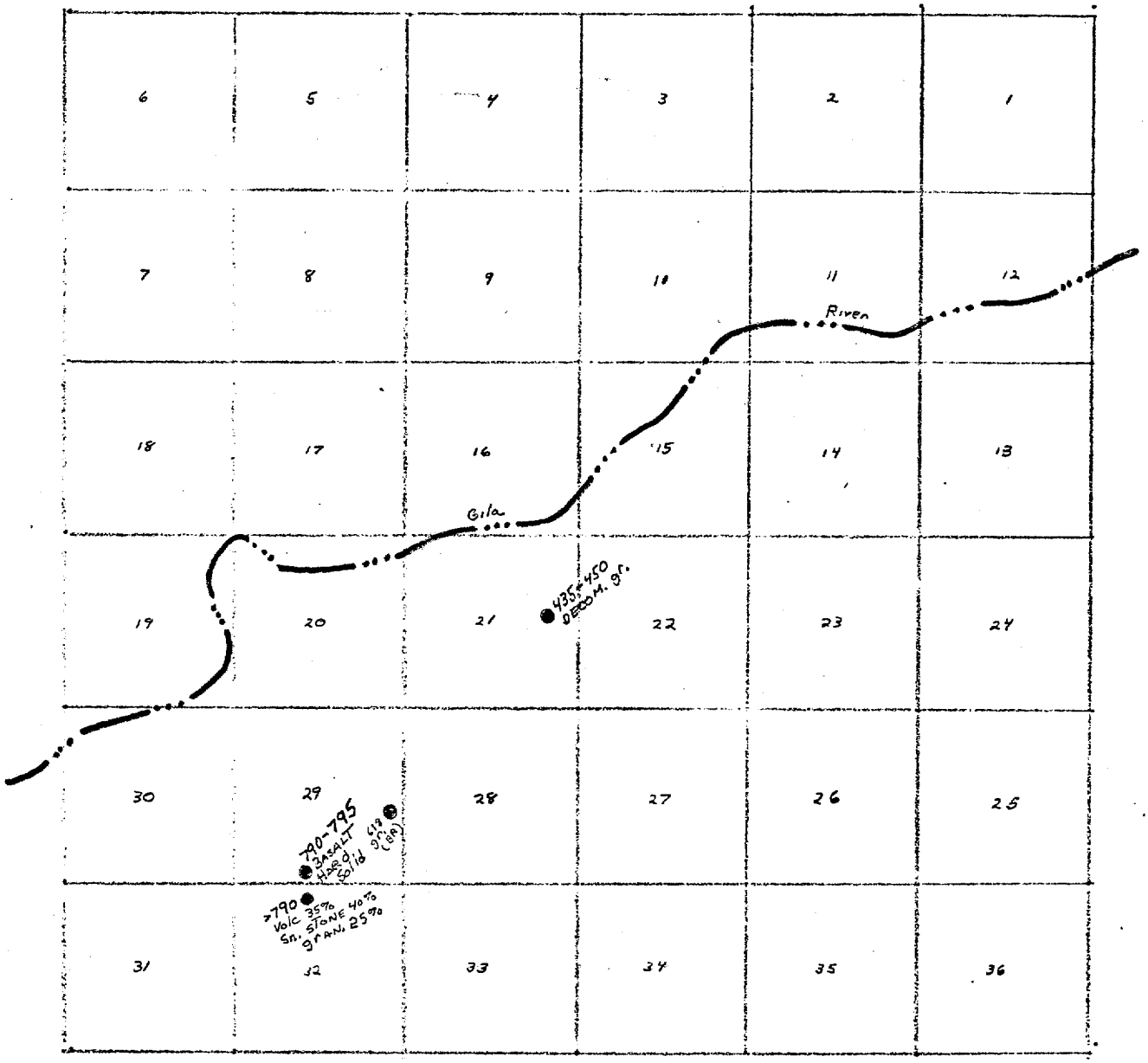
12/20/72

(D-4-9)	3aaa T.D. 504	NO LOG
522-600 HARD ROC (BR)	5aaa2 TD 600	SLD 522-600 HARD ROCK (U.S.G.S SAY BR)
615-635 HARD ROCK	5bab TD 635	SLD 615-635 HARD ROCK
945-995 QTZ 10% QTZT 80% Gr. 5% Volc. 5%	6aaa2 TD 1000	SLD 945-995 quartz 10% QUARTZITE 80% GRANITICS 5% volc. 5%
	18ddb	NO TD OR LOG
	25 bcc TD 250	No log
>300 GRAV. clay	25 bcd TD 300	SLD 250-300 GRAVEL + clay
>620 SOFT cgl	31baa TD 620	SLD 617-620 SOFT cgl.
385-426 gr. CEM. bld	18ada TD 426	U.S.G.S. 385-426 granite cem. bld.
368-382 gr.	31bba TD 382	U.S.G.S. 345-368 Malpais 368-382 granite
209-290 HARD cgl.	35aaa TD 290	U.S.G.S. 209-290 Hard cgl.
TD 415 BOTTOM CENOZOIC	25 SE SW TD 415	A.B.M. 415 BOTTOM CENOZOIC QAL.
620 G.S.C (QTo)	30 ccd TD 620	M.E. COOLEY'S MAP G.S.C (QTo)
334 Tb	30dda TD 334	M.E. COOLEY'S MAP Tb
548 G(QTo)	32 dad TD 548	M.E. COOLEY'S MAP G(QTo)
335 BR	28cda TD 2006	325-525 qtz MONZONITE porphyry 525-1600 gedicrate porphyry 1600-2006 unclassified Bedrock (U.S.G.S BR. at 335) PENDING FILE AT U.S.G.S.
>890 clay	31dca TD 890	845-890 clay PENDING FILE AT U.S.G.S.

(D-4-9) 6/6/73

>1534 SCHIST WITH SM. + GRAU.	6 caa TD 1534	U.S.G.S FILES 1380-1534 SCHIST WITH SM. + GRAU. STREAKS	PENDING FILE
>867 Cgl.	7aaa TD 855	U.S.G.S FILES 835-867 Cgl. HARD & SHARP.	PENDING FILES

T. 4 S., R. 10 E.



● DATA USGS FILES

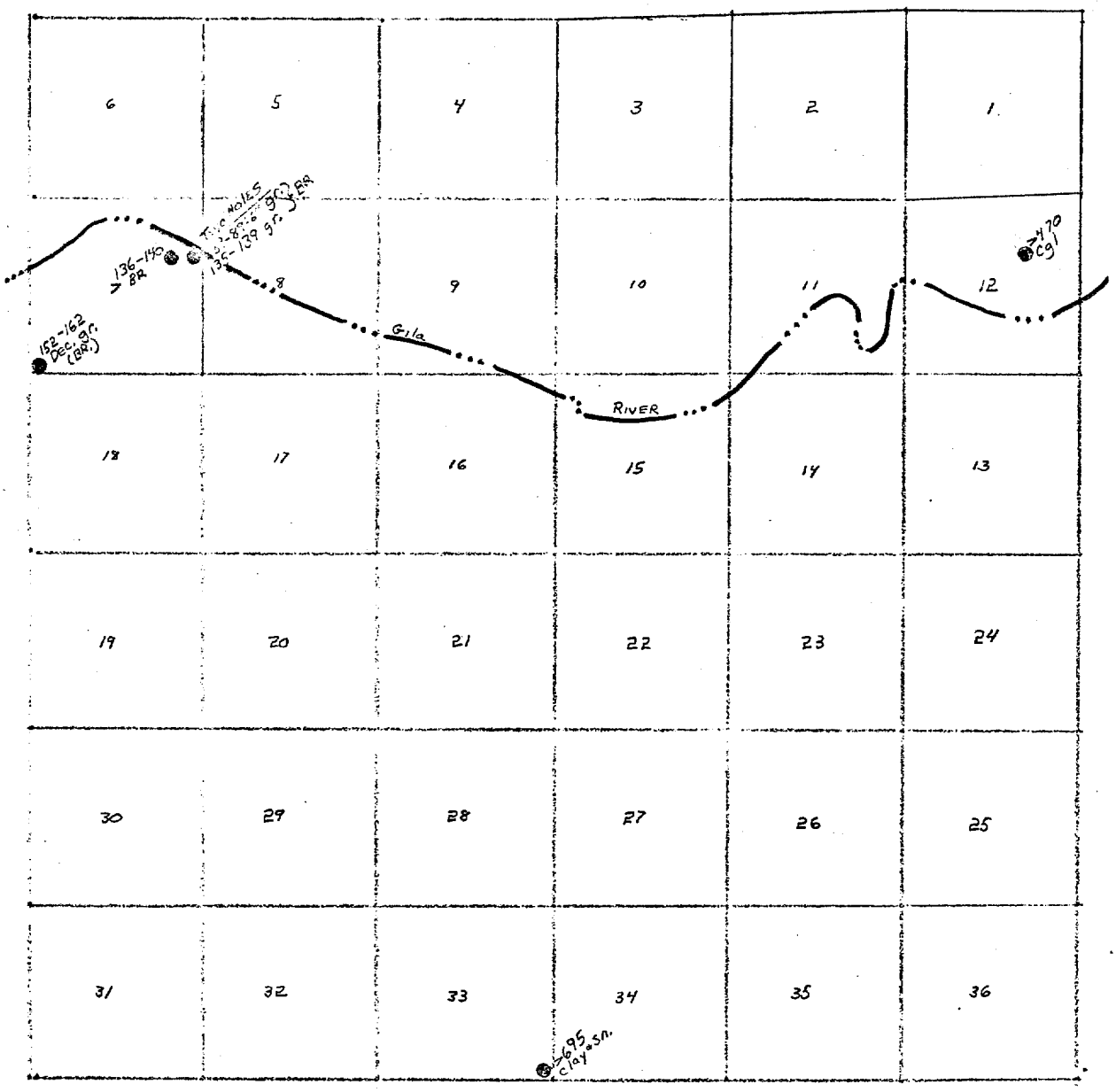
SCALE · 1 : 62,500

4S, 10E

12/29/72

(D-4-10)	29cdd TD 795	SLD 771-790 Volc. Cgl. 790-795 BASALT -HARD SOLID
790-795 BASALT HARD SOLID		
618 GRANITE (BR)	29.daa TD 622	SLD 618-622 GRAY GRANITE -VERY HARD (U.S.G.S SAY BR)
	30bdd TD 300	NO LOG
50-790 Volc. 35% Sn. STONE 40% granitics 25%	32baa2 TD 790	SLD 50-790 GRANITICS 25% Volc. 35% QUARTZITE & Sn STONE 40%
435-450 DECOM. gr.	21adc TD 450	400-435 ROCK 435-450 DECOMPOSED GRANITE

T. 4 S., R. 11 E.



● DATA U.S.G.S. FILE

SCALE 1:62,500

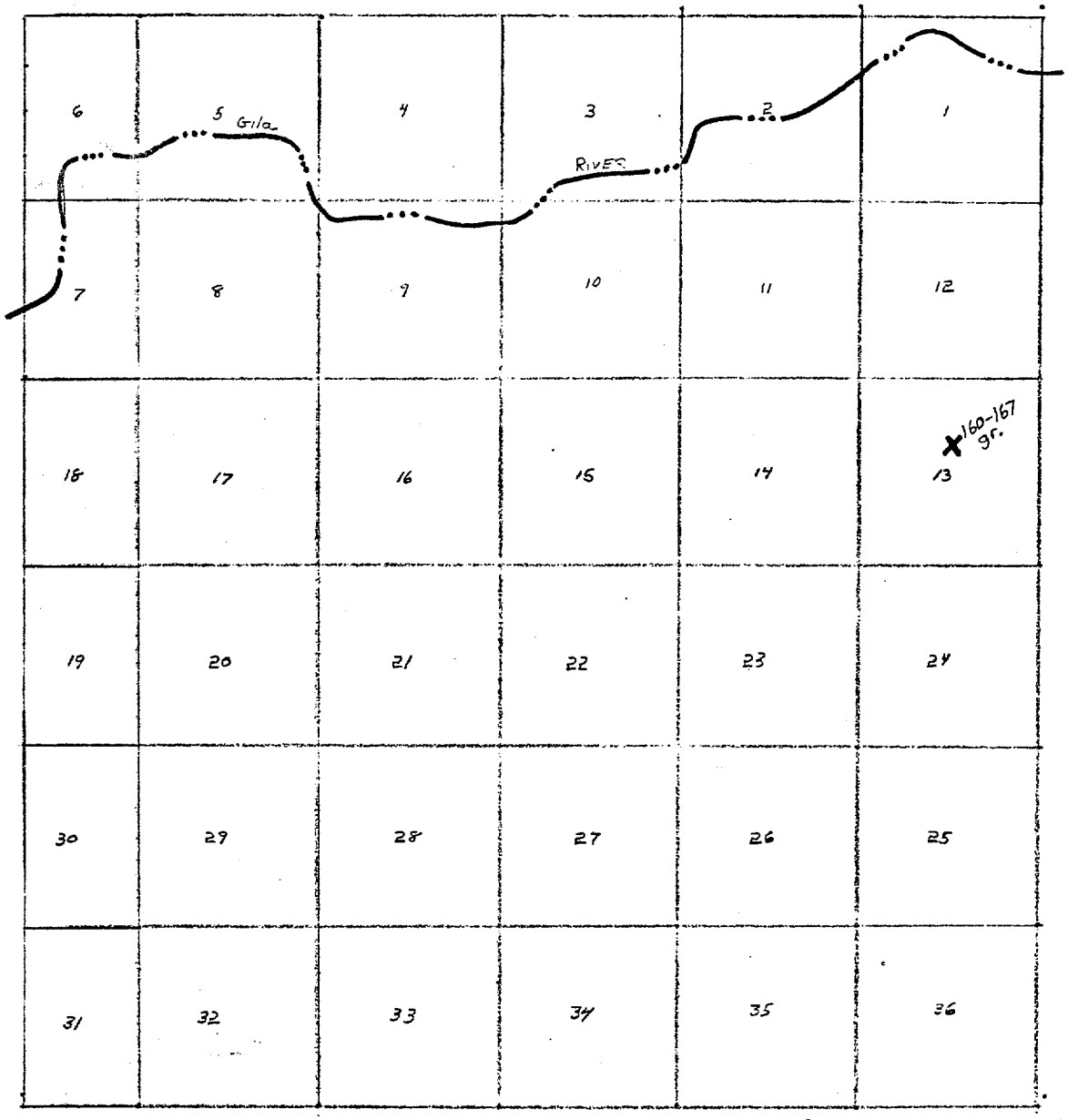
4S, 11E

(D-4-11)

2/21/73

87'-89'-6" blue gr. (BR)	7ada TD 89	U.S.G.S. log 89'-89'6" HARD blue granite (U.S.G.S BR)
135-138 BR.	7ada TD 138	U.S.G.S log 135-138 BED ROCK (U.S.G.S BR)
157-162 Dec. gr. (BR)	7ccc TD 162	U.S.G.S. log 157-162 DECOM. granite (U.S.G.S BR)?
>470 Cgl.	12aca TD 470	U.S.G.S log 200-470 Cgl. STRATAS OF granite (PMS)
>695 clay+sn	33ddd TD 695	U.S.G.S. log 680-695 clay + sn.
136-140 BR	7adb TD 140	U.S.G.S log 136-140 BEDROCK PENDING FILES

T. 4 S., R. 12 E.



X GENERAL LOCATION DATA POINT

SCALE 1:62,500

4S, 12E

(D-4-12)

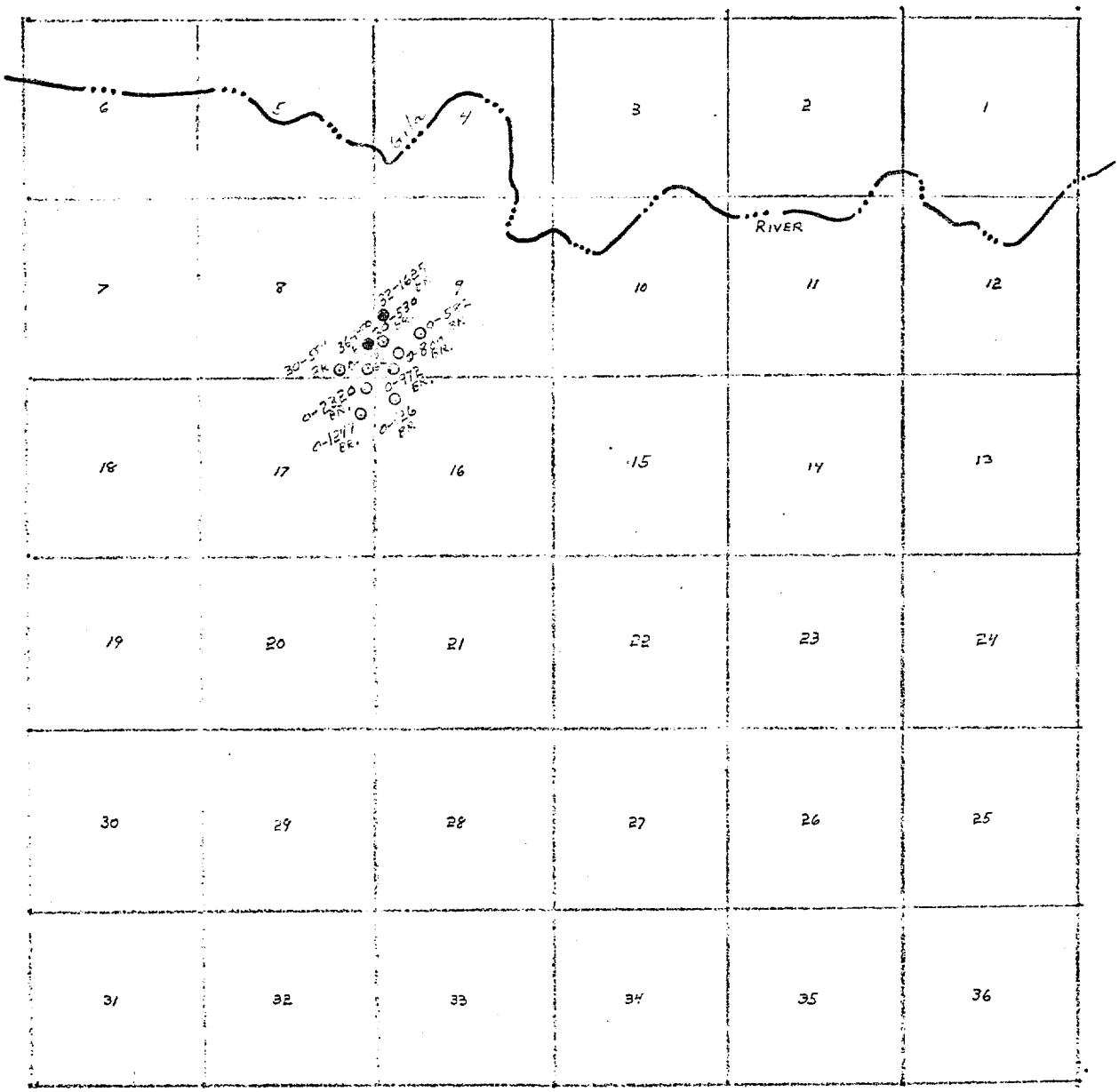
X
160-167
30'

13
TD 167

160-166'6" GRANITE RED HARD

2/21/73

T. 4 S., R. 13 E.



○ SHIELDS MINERALS corp — SEE ASARCO FILES
B.F. KILPATRICK SUBMITTAL MAY 28, 1969

● KALVIN PROSPECT - SEE ASARCO FILES
TIPPERARY LAND & EXPLORATION CORP. DEC. 11, 1970

SCALE · 1 : 62,500

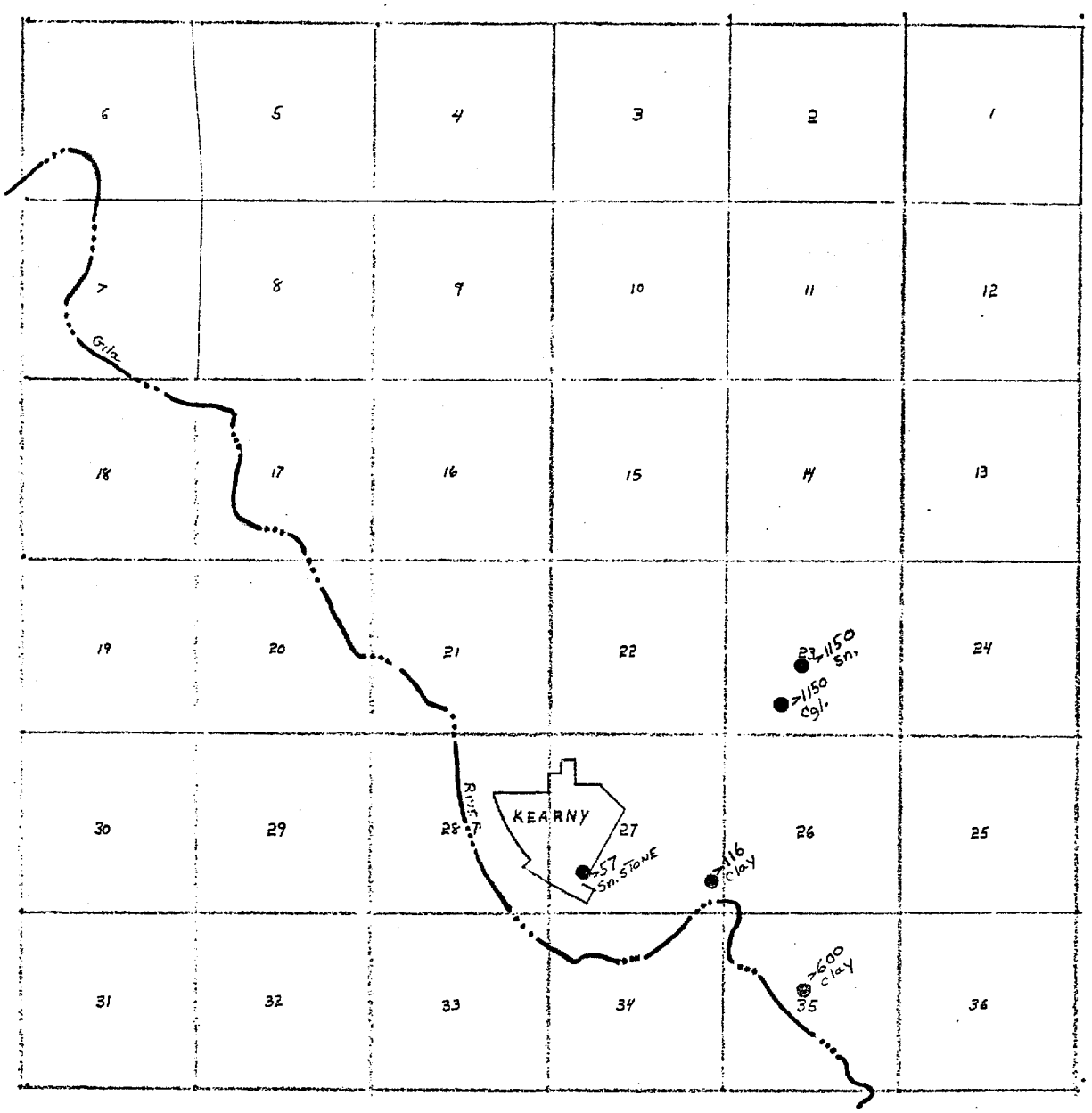
4S, 13E

(D-4-13)

2/21/73

NO INFO AT THIS TIME

T. 4 S., R. 14 E.



● DATA U.S.G.S. FILES

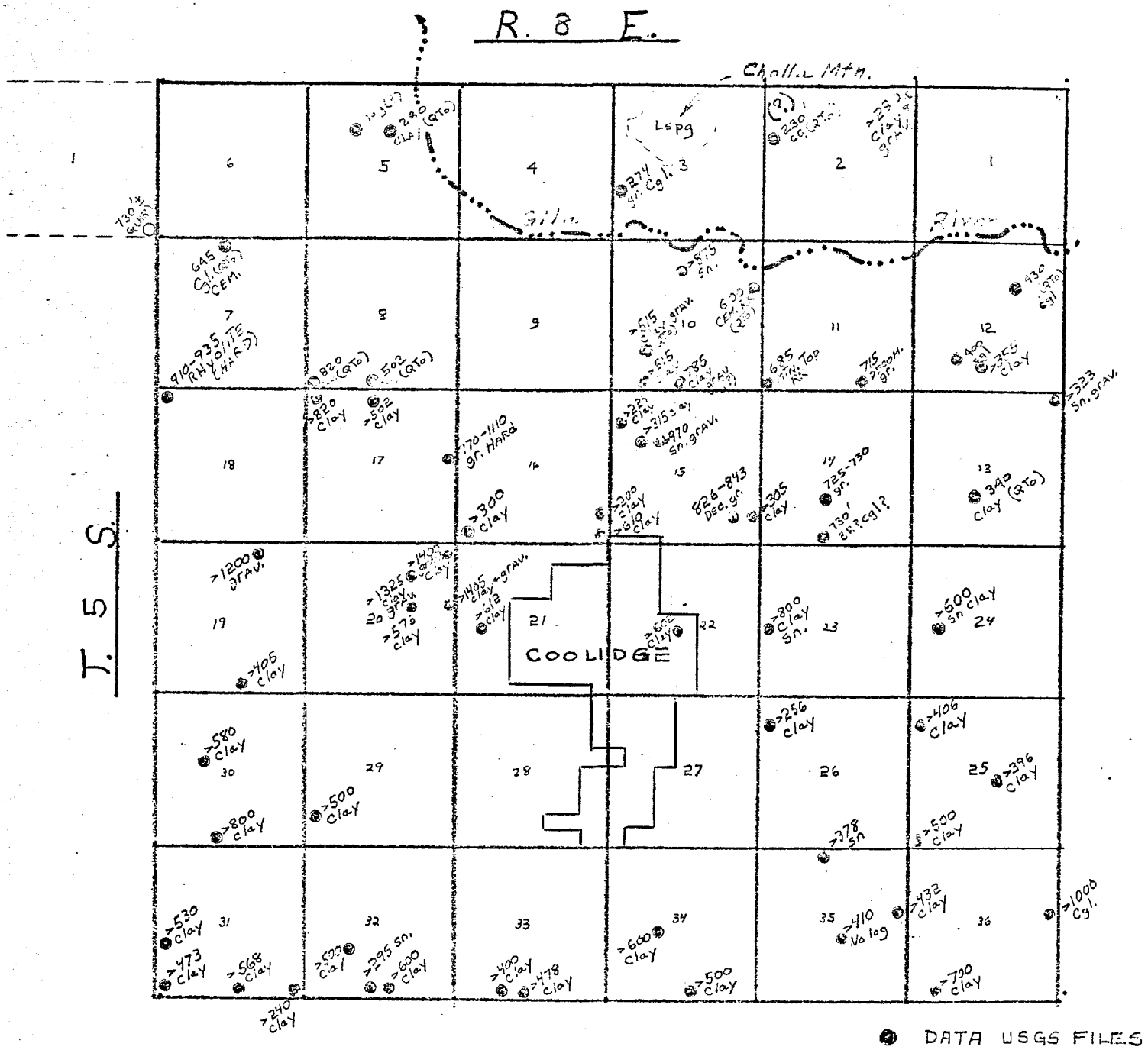
SCALE 1:62,500

4S, 14E

(0-4-14)

2/21/73

	21 bcda TD 80	U.S.G.S. log No Logs
>1150 Sn.	23 caa TD 1150	U.S.G.S. log 960-1150 85% Sn. 15% granites
>1150 Cgl.	23 cdb TD 1150	U.S.G.S. log 1105 - 1125 sticky clay 1125 - 1150 HARD Cgl.
>57 Sn. STONE	27cca TD 57	U.S.G.S. log 20 - 57 Sn. STONE
>116 clay	27dda TD 116	U.S.G.S. log 77-116 light clay + ROCK
	28cca TD 87.5	U.S.G.S. log No log
>600 clay	35 bdd TD 600	U.S.G.S log 595 -600 PURE clay



SCALE 1:62,500

SS, 8E

(D-5-8) 12/6/72

clay, gran	2aaa TD 230	SLD 217-230 CLAY & GRAVEL
gr. cgl.	3cbc TD 274	SLD [DEEPENED 214-274, 72] 214-222 SAND & GRAVEL 222-274 GRANITE Cgl. U.S.G.S. H.G. OR HARD GRAVEL
280 clay (QTo)	5abc TD 280	SLD 230-280 RED CLAY HARD
645 cem. cgl	7baa TD 645	SLD [DEEPENED 192-645, 72) 572-575 CEM. SN & GRAVEL [U.S.G.S H.G.] 575-645 CEM. cgl.
>600 cem. RK	10ada TD 600	SLD 462-470 CLAY & CEM. GRAVEL 470-600 CEM. ROCK GRAY [U.S.G.S. HG]
>875 Sn.	10bad TD 875	SLD 460-475 SN.: FINE TO V. COARSE
515 clay	10ccd TD 515	SLD 338-515 CLAY
MTN. TOP RK (QTo)	11ccc TD 685	SLD 648-670 GRANITE 670-685 BROWN ROCK OR MTN. TOP (U.S.G.S. HG)
decom. gr. (QTo)	11dcd TD 715	SLD 648-715 DECOMPOSED GRANITE (U.S.G.S. HG.)
	12aad NO Logs OR TD	
>430 cgl.	12abd TD 430	SLD 310-335 CLAY WITH DECOM. GRANITE (U.S.G.S. G.) 335-430 CONGLOMERTE
400 cgl.	12cdb TD 400	SLD 253-300 CLAY & GRAVEL STRATAS - GRANITE 300-400 CONGLOMERATE
>323 Sn-gran	13aaa TD 323	SLD 300-323 SAND & GRAVEL
>340 clay	13cad TD 340	SLD [DEEPENED 204-340, 72] 184-204 CLAY 204-340 - CLAY
725-725 gr.	14cad2 TD 730	SLD 700-725 DECOM. GRANITE CEMENTED 725-730 GRANITE
	14dad NO LOG OR TD	
>224 CLAY	15bbc TD 224	SLD 212-224 CLAY

(CONT.)

(D-5-8)

>315 CLAY	15 bca TD 315	SLD 260-315 RED CLAY
>970 in gran	15 bdb TD 970	SLD 960-970 CEMENTED SN. + GRAVEL
>305 CLAY	15dda TD 305	SLD 236-305 SANDY CLAY
826-843 DECOM. GR.	15ddb TD 843	SLD 826-843 DECOM. GRANITE
>300 CLAY	16 ccc TD 300	SLD 260-300 CEM. CLAY
	16 dbd No logs OR TD	
>200 CLAY	16 dda TD 200	SLD 128-200 CLAY
>610 CLAY	16ddd TD 610	SLD 540-610 CLAY
970-1110 gr. HARD	17add TD 1110	SLD [DEEPENED 415-1110 59] 970-1110 BROKEN QUARTZ & GRANITE, HARD
502 CLAY	17baa2 TD 502	SLD 474-502 CLAY-SHALE
820 CLAY	17 bbb2 TD 820	SLD 745-795 HARD CLAY 795-820 HARD CLAY
PENDING FILES HOLE IS DEEPER	18 bbb2 TD 710	SLD 360-710 SN. VI FINE TO VI COURSE.
>1200 GRAV.	19aba TD 1200	SLD 1015-1200 PACKED GRAVEL
	19cdd No log OR TD.	
>405 CLAY	19dcc TD 405	SLD 350-405 CLAY STICKY
>1315 CLAY + GRAV.	20abd TD 1325	SLD 1315-1325 CEMENTED CLAY & GRAVEL 4"

(CONT.)

(D-5-8)

>576 CLAY	20 acd TD 576	SLD 440-576 HARD STICKY CLAY
>1405 CLAY & GRAV.	20add TD 1405	[SLD DEEPENING 802-1405 57] 1202-1405 CEM. CLAY & GRAVEL
	20ddd	NO LOG OR T.D.
>612 CLAY	21cba TD 612	SLD 601-612 CLAY SHALE
>602 CLAY	22caa TD 602	SLD 504-602 BROWN CLAY
>800 CLAY ~ SN	23cbb2 TD 800	SLD 650-800 CLAY WITH SANDY STREAKS
>600 SN. CLAY	24cba2 TD 600	SLD 596-600 SANDY CLAY
>406 SN. CLAY	25bbc TD 406	SLD 390-406 SANDY CLAY
>500 CLAY	25ccc2 TD 500	SLD 418-500 CLAY + SILT
>396 CLAY	25dbb TD 396	SLD [DEEPENING 226-396, 47] 339-396 CLAY + CALICHE
>256 CLAY	26bbc TD 256	SLD 230-256 SANDY CLAY
>500 CLAY	29ccb TD 500	SLD 384-500 CLAY & CLAY SHALLS 50-50
>580 CLAY	30bdc2 TD 580	SLD 301-580 CLAY - CHANGING COLORES BROWN, GREEN + BLUE
>800 CLAY	30cdd2 TD 800	SLD 780-800 STICKY CLAY
>530 CLAY	31cbc1 TD 530	SLD 513-530 HARD STICKY CLAY - RED
>473 CLAY	31ccc1 TD 473	SLD 312-473 CLAY GRAVEL STRATE S LOOSE FORMATION

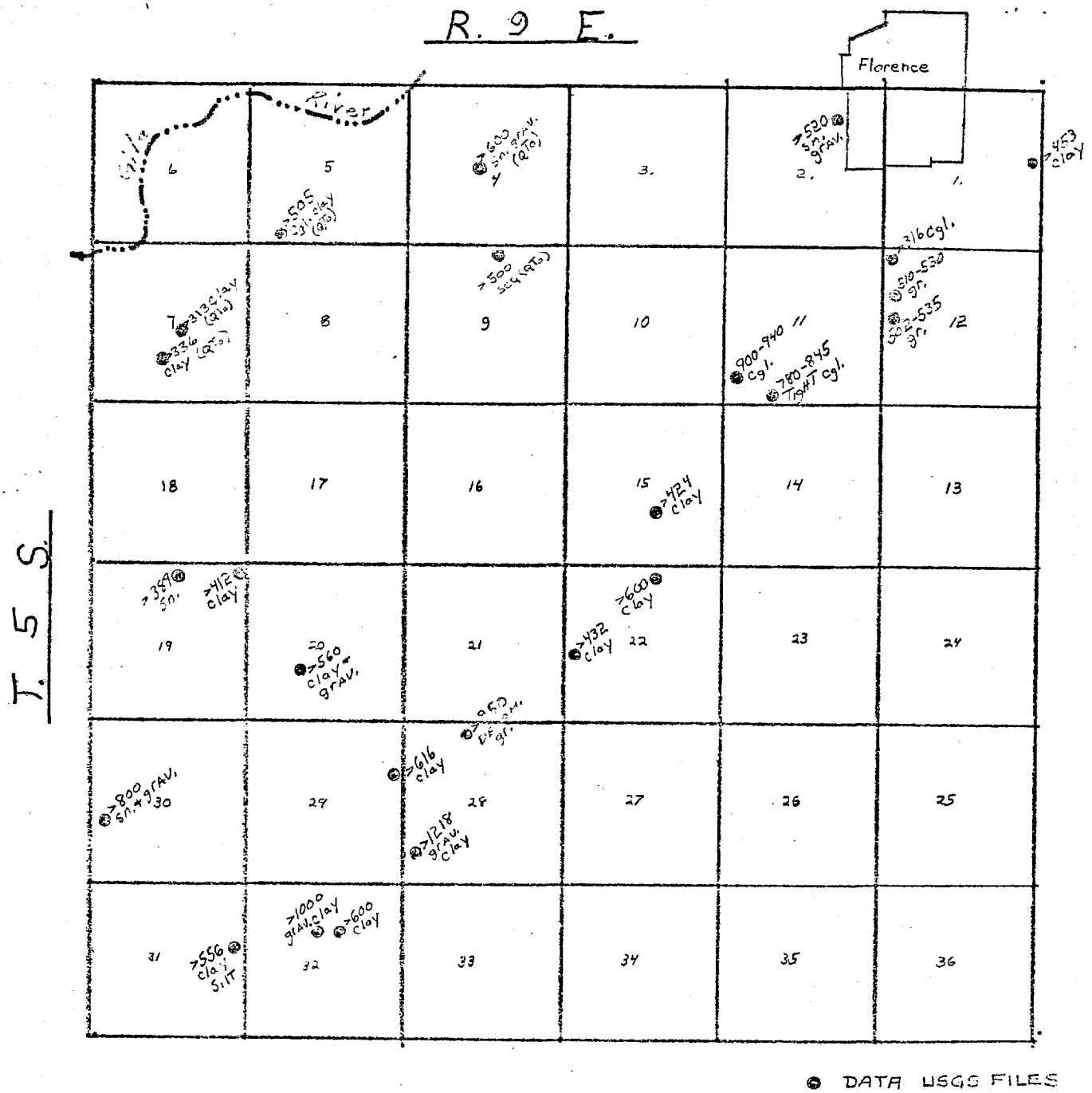
CONT.

(D-5-8)

>568 clay	31dcc TD 568	SLD 385-568 CLAY
>240 clay	31ddd TD 241	SLD 195-241 HARD CLAY
>500 clay	32ccc TD 500	SLD 414-500 HARD RED CLAY
>295 sn.	32cdd TD 295	SLD 293-295 SAND
>600 clay	32dcc TD 600	SLD 380-600 CLAY & SHALE
>400 clay	33cdc TD 400	SLD 322-400 CLAY & CLAY SHALE
>478 clay	33cdd TD 478	[SLD DEEPENED 290-478, 57] 300-478 CLAY & CLAY SHALE
>600 clay	34cab TD 600	SLD 460-600 TOUGH CLAY
>500 clay	34dcc TD 500	SLD 263-500 CLAY & CLAY SHALE
>432 clay	35add2 TD 432	SLD 387-432 HARD CLAY
>410 no log	35dbb TD 410	SLD NO LOG [SEE ELEC. LOG]
>1000 cgl.	36add2 TD 1000	SLD [DEEPENED 502-1000, 63] 970-1000 SAND, GRAVEL, GRANITE, CONGLOMERATE, VERY TIGHT
>700 clay	36ccd TD 700	SLD 500-700 CLAY & CLAY SHALE
>360 clay	12cda TD 360	280-355 clay & shale WATER layers PENDING FILE U.S.G.S.
>1400 clay grav	20aaa TD 1400	1052-1400 STRATAS grav., Sn. & clay STRATAS; SOME CEM. Sn. PENDING FILE U.S.G.S.
>378 Sn	35baa TD 378	295-378 RED clay 378 WATER Sn. PENDING FILE U.S.G.S.

(D-58) ADD. 12/5/72

230 Clay & gravel	2bcb TD 230	M.E. Cooley's MAP 230 CG (QTo) = CLAY & GRAVEL
log (?)	5bac	M.E. Cooley's MAP ? (should be a log by symbol)
820 Clay (QTo)	8ccc TD 820+	M.E. Cooley's MAP C (QTo) = CLAY
502 Clay (QTo)	8cdd TD 502+	M.E. Cooley's MAP C (QTo) = CLAY
730 BR? -cgl?	14cdd TD 730+	M.E. Cooley's MAP 730+ BR? -cgl?
(?) 515 Clay & gravel (QTo)	10cbd TD 515+	M.E. Cooley's MAP 515+ CG (QTo)
785 Clay & gravel	10cdd TD 785+	M.E. Cooley's MAP 785+ CG? (GL)
910-935 Rhyolite (HARD)	18bbba TD 935	U.S.G.S Files 910-935 Rhyolite (HARD) PENDING FILE



● DATA USGS FILES

SCALE 1:62,500

55, 9E

(D-5-9) 12/6/72

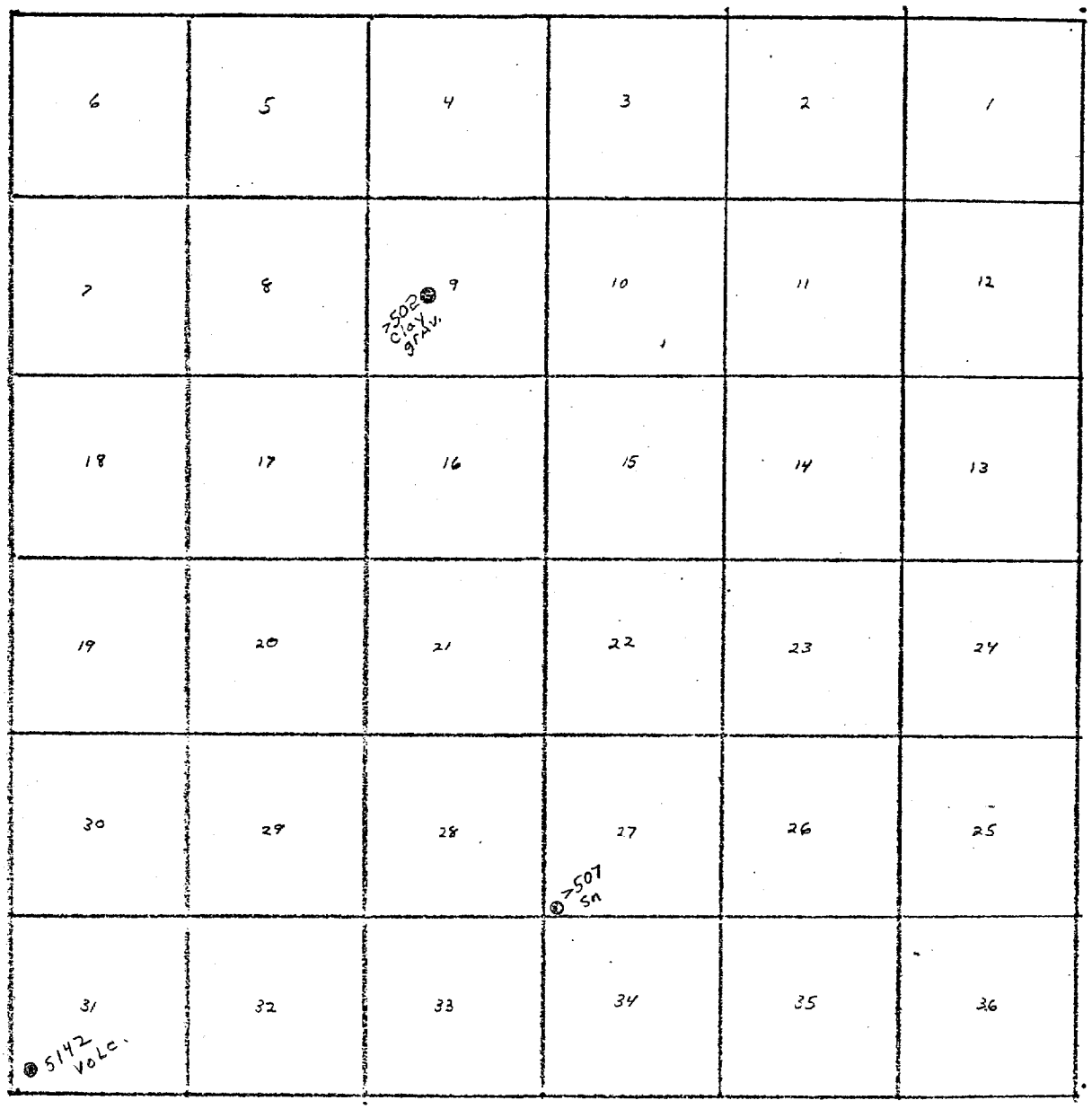
>453 clay	1add TD 453	SLD 407-453 CLAY
>520 gravel & Sn.	2abd TD 520	SLD 462-520 CEMENTED GRAVEL & SAND NO WATER ?
	3dab	No log OR TD.
>600 Sand	4cab TD 600	SLD 525-600 SAND
>505 Cgl + clay	5cad TD 505	SLD 445-505 cgl. & CLAY
>336 clay	7cad TD 336	SLD 305-336 RED CLAY
>313 clay	7dbb TD 313'6"	SLD 310-313 STICKY CLAY
>500 Sn. gravel clay	9abb TD 500	SLD 485-500 CLAY
900-940 cgl.	11ccb TD 940	SLD 885-900 cgl WITH CLAY 900-940 cgl
780-845 Tight Cgl.	11cdc TD 845	SLD 548-780 Sn. GRAVEL SOME CLAY 780-845 TIGHT cgl.
>316 CEM. Cgl.	12bbb TD 316	SLD 311-316 CEMENT cgl.
510-530 gr.	12bcb TD 530	SLD 510-530 GRANITIES 90% SAND FINE TO V. COARSE
502-535 gr.	12bcc TD 535	SLD 502-535 GRANITE (U.S.G.S SAY BR)
>425 clay	15dbc TD 425	SLD 404-424 clay
>412 clay	19aaa TD 412	SLD 350-412 CLAY
	19ddd TD 300	SEE LOG SCHEDULE FOR LOG

(CONT.)

(D-5-9) 12/6/72

>560 CLAY & GRAV.	20 cac TD 560	SLD 552-560 CLAY WITH LITTLE gRAVEL
	20 dad TD 300	NO LOG AVAILABLE
>600 CLAY	22abb TD 600	SLD 598-600 CLAY
>432 CLAY	22cbb TD 432	SLD 412-432 CLAY
PENDING FILE HOLE HAS GREATER DEPTH	28bab TD 930	SLD 900-930 SAND & FINE TO U. COARSE
>1218 CLAY & GRAV.	28ccb TD 1218	SLD 1115 1125 STICKY CLAY & FINE SAND 1125-1218 ROUGH quarty & GRANITE gRAVEL & CLAY MIX
>616 CLAY	29ada TD 616	SLD 590-616 CLAY
>800 SN. gRAV.	30cbb TD 800	[SLD DEEPENED 350-800 .62] 743-800 HARD CEMENTED SAND & gRAVEL
>556 CLAY	31add TD 556	SLD 520-556 TOUGH CLAY & SILTY STREAKS
>600 CLAY	32acb TD 600	SLD 582-600 CLAY
>1000 CLAY	32bda TD 1000	SLD 827-1000 SILTY CLAY SOME gRAVEL
LOOK THE SAME AS 12 bca	12bcb TD 535	U.S.G.S FILES 499-502 Volc. RK SOME SN. + GRAV. PENDING FILE 502-535 gRANITE
>389 SN.	19abb TD 386	U.S.G.S FILES 386-389 WATER SAND PENDING FILE
>950 DEC. gr.	28bab TD 950	U.S.G.S FILES 907-950 HARD CEMENTED DECOM. gRANITE PENDING FILES

T. 5 S., R. 10 E.



● DATA USGS FILES

SCALE 1:62,500

5S 10E

(D-5-10)

12/6/72

>502 CLAY & GRAVEL	9aab TD 502	SLD 440-502 CLAY + GRAVEL
>507 SILTY SA	27ccc TD 507	SLD 498-507 FINE SILTY SAND
0 5142 Volc	31 SW1/4, SW1/4 TD. 5142	WESTERN OIL FIELDS INC. 5142 IN Volc, (DIORITE BRECCIA)

NAME OF HOLE (HINES-1)

T. 5 S., R. 11 E.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SCALE: 1:62,500

5S, 11E

(D-5-11)

12/6/72

NO WELL OR LOGS AT USGS

T. 5 S., R. 12 E.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SCALE 1:62,500

5 S, 12 E

(D-5-12)

12/6/72

No Logs or wells
at this time

T. 5 S., R. 13 E.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SCALE 1:62,500

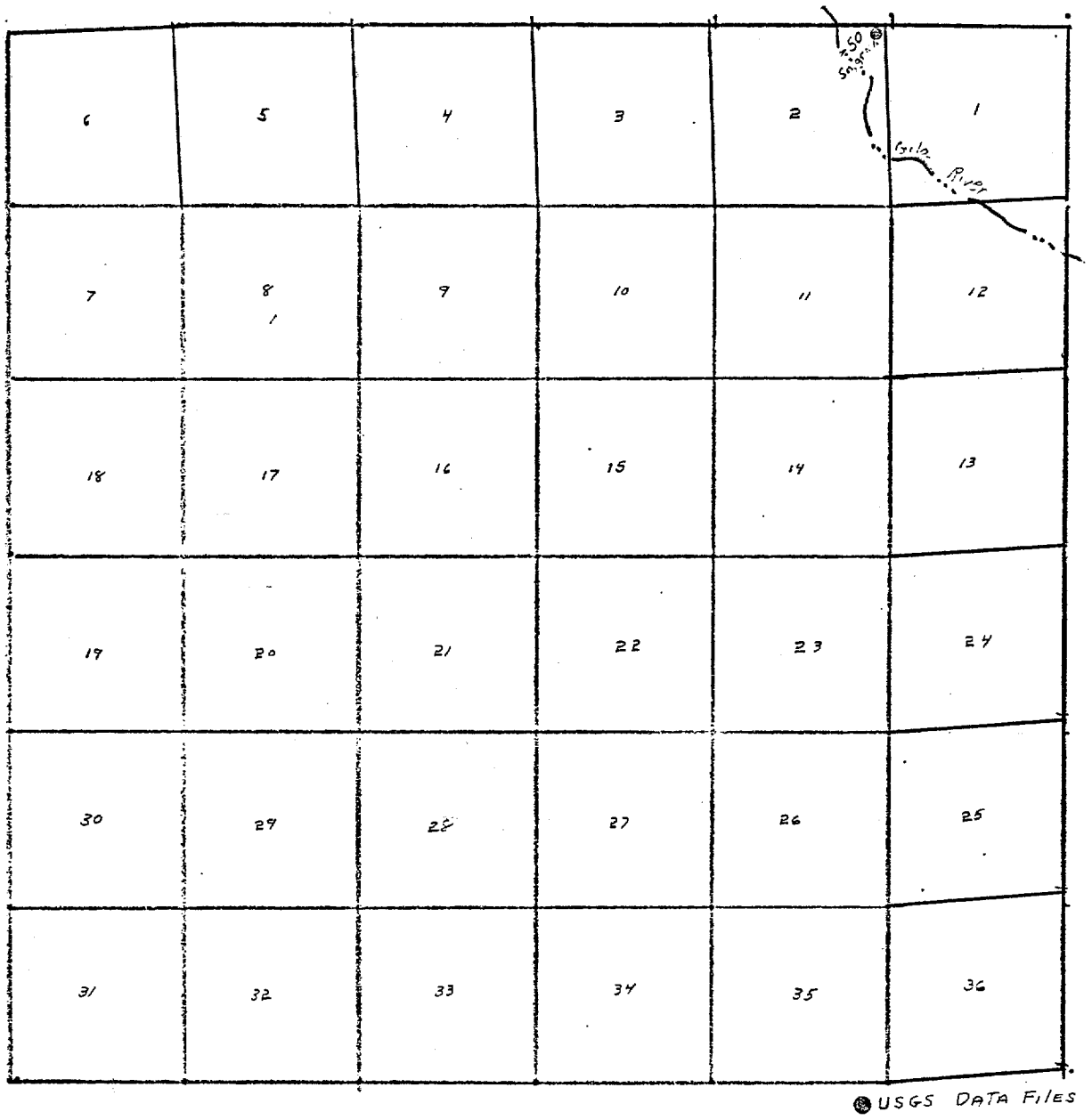
5 S, 13 E

(10-5-13)

12/6/72

NO LOGS OR WELLS
AT THIS TIME

T. 5 S., R. 14 E.



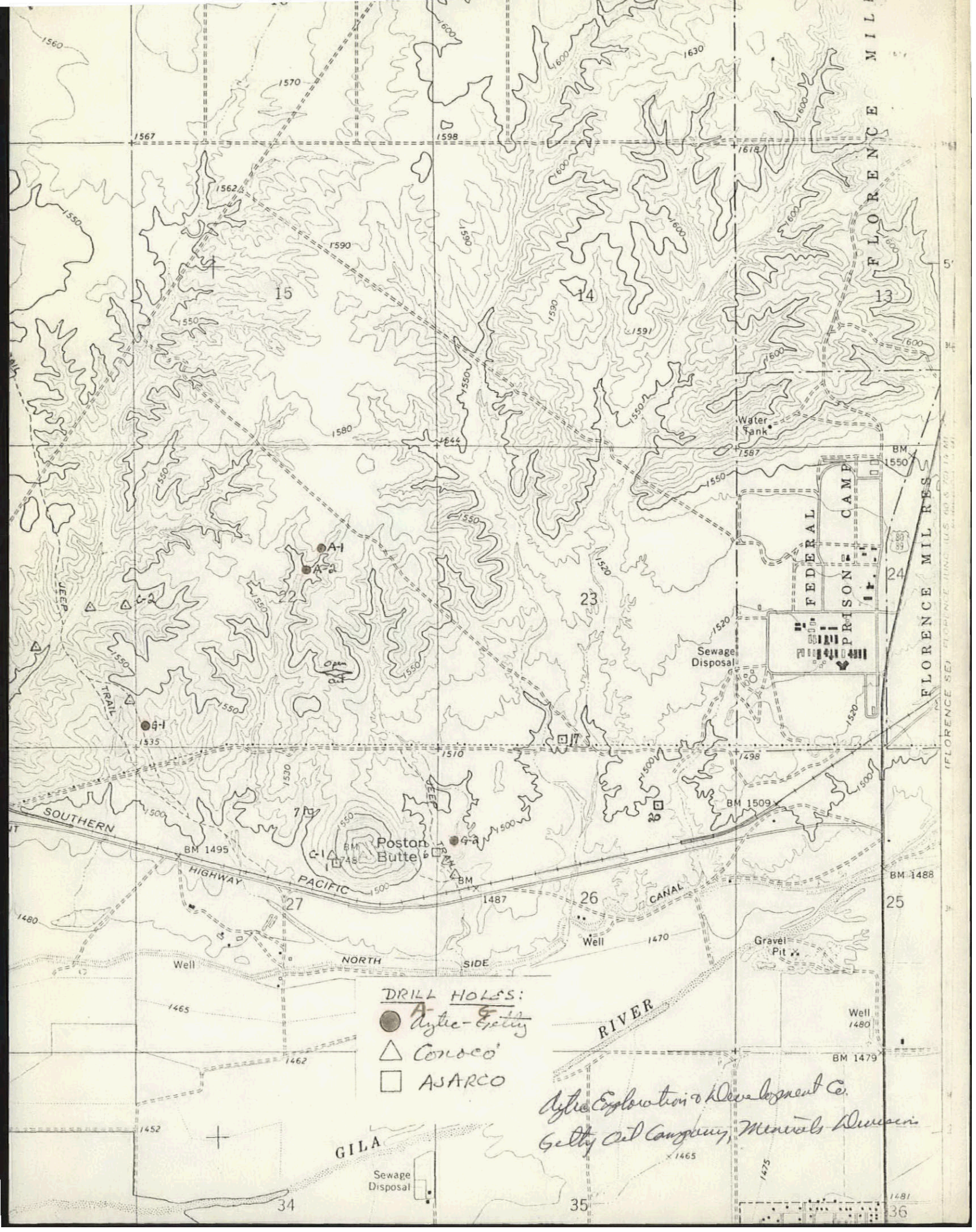
SCALE 1:62,500

5S, 14E

(D-5-14)

5/15/73

>50 Sn. agrav.	Zara TD 50	U.S.G.S Files 40-50 Loose Sand Cobble stones
D-5-14	S.P. Hoch[illegible]	700' deep [illegible] [illegible] TD [illegible] [illegible]


FLORENCE MIL RES
FEDERAL PRISON CAMP
Water Tank
Sewage Disposal
Poston Butte
SOUTHERN PACIFIC HIGHWAY
CANAL
NORTH SIDE
RIVER
GILA
Gravel Pit
Well
JEEP TRAIL
A-1
A-2
C-1
C-2
G-1
G-2
DRILL HOLES:
A- Aztec-Getty
Conoco
ASARCO
Aztec Exploration & Development Co.
Getty Oil Company, Minerals Division

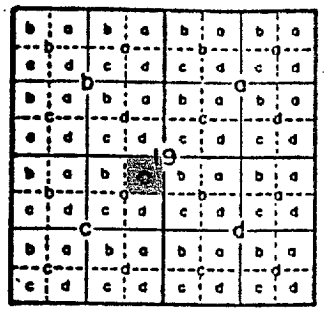
A-1 0-500 T.D. Precambrian granite and andesite porphyry.

A-2 0-145 Whitetail conglomerate (?).

G-1 0-300 (?) Gila River silt.
300(?)-500(?) Whitetail Conglomerate
500(?)-2000 Precambrian granite

G-2 0-90 (?) Gila River silt
90(?)-710(?) Whitetail Conglomerate
710(?)-1280 Precambrian granite w/ graphic granite.

Section Location Example



Section 19caa

DRILL RECORD

HOLE DESIGNATION Humble State 32-1

T 16S R 15E

SEC 5 caa

4 miles SE of Tucson

General File Reference: Pima County General, Aa-16.0.0

Total Depth: 12,556 ft.

Postmineral thickness: 11,987 ft.

Premineral bedrock: Qtz Monzonite

Source of Information: Ariz. Oil & Gas Conv. Comm.

Drill Contractor: Lofland Drilling Co.

Company: Humble Oil & Refining Co.

Date: Spudded 9/16/72 Completed 12/18/72.

Geologic Log: Operators log.

	0- 2975	Sand, red clay.
	2975 - 7,300	Sand, shale, conglomerate
	7,300-7,710	Volc. tuff, sand, shale.
	7,710-9,070	Interbedded andesite & basalt flows & shale with welded tuff at base.
	9,070-9,525	Conglomerate
	9,525-10,036	Basalt, volc. flow andesite & welded tuff.
K?	10,036-11,987	Conglomerate & shale.
pt?	11,987-12,556.	Quartz monzonite.

Assays, Geochem: None

Core, cuttings on file: Prob. No core. Cuttings probably on file with OOGC.

Drilling Problems, Depth to Water:

Other: Collar Elevation 2873 ft. Pima County, Arizona

Other Logs: Compensated Formation Density, Induction-Electrical, Borehole compensated Sonic log - Gamma Ray.

9-12-74

9108

COUNTY Pima AREA 4 mi. SE of Tucson LEASE NO. State 32

WELL NAME HUMBLE OIL & REFINING COMPANY STATE (32) No. 1

LOCATION NE/SW SEC 5 TWP 16 S RANGE 15E FOOTAGE 2210 FWL - 2210 FSL

ELEV 2873 GR _____ KB SPUD DATE 9-16-72 STATUS P&A COMP. DATE 12-18-72 TOTAL DEPTH 12,556

CONTRACTOR Loffland Drilling Company

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH
16"	199	265 sx	
10 3/4"	2982	1,070 sx	

DRILLED BY ROTARY X

DRILLED BY CABLE TOOL _____

PRODUCTIVE RESERVOIR NA

INITIAL PRODUCTION Dry Hole

FORMATION TOPS	DEPTHS	SOURCE L.L.	SOURCE E.L.	REMARKS
				See Completion Report for formation
				changes - Operator claims ~~not~~ formation
				tops Not picked.
				Basement rocks F/11987 to T.D.

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS
Comp. Form. Density-1		
Comp. Neutron Form Density-1		
I.E.-1, Dual Ind. Laterolog-1		
Comp. Neutron Log-1	-	-
BHC Sonic Log-Gamma Ray-2		

SAMPLE LOG X
SAMPLE DESCRP. X
SAMPLE NO. 1724
CORE ANALYSIS _____
DSTs _____

REMARKS Stratigraphic test

APP. TO PLUG X
PLUGGING REP. X
COMP. REPORT X

WATER WELL ACCEPTED BY _____

BOND CO. THE AMERICAN INSU. COMPANY BOND NO. 5-10-11-58

BOND AMT. $ 25,000 CANCELLED _____ DATE ORGANIZATION REPORT 1-2-73

FILING RECEIPT 2933 LOC. PLAT X WELL BOOK X PLAT BOOK X

API NO. 02-019-20001 DATE ISSUED 9-5-72 DEDICATION E/2 SW/4 80 acres

CONFIDENTIAL

PERMIT NUMBER 597

(over)

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [X]

DESCRIPTION OF WELL AND LEASE

Operator: Humble Oil & Refining Company	Address: P. O. Box 1600, Midland, Texas 79701
Federal, State or Indian Lease Number or name of lessor if fee lease: State (32) (State Lease No. 14232)	Well Number: 1. / Field & Reservoir: Stratigraphic Test Hole
Location: 2,210' FSL & 2,210' FWL	County: Pima
Sec. TWP-Range or Block & Survey: Section 5, T-16-S, R-15-E	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.)	Elevation of casing hd. flange
9-16-72	12-14-72	Dry Hole	2,873' GR feet	- - feet

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
12,556	0	Dry Hole	

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
Dry Hole	0 - 12,556'	- -

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No	No	- -

Type of electrical or other logs run (check logs filed with the commission): Comp. Form. Density; Induction - Electrical; Borehole, Comp. Sonic Log - Gamma Ray — Date filed: 12-29-72

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Conductor	20"	16"	65#	199'	265 sx	None
Surface	13-3/4"	10-3/4"	40.5#	2,982'	1,070 sx	None

TUBING RECORD

Size	Depth set	Packer set at
None in.	ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	None ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval
None		

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval
None	

INITIAL PRODUCTION

Date of first production: Dry Hole

Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	° API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas—oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Proration Specialist of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date: 12-29-72

Signature: D. L. Clemmer

D. L. Clemmer

NOTE: Copies of Logs Filed w/this Report

Orig.: OGCC - State of Arizona
cc: Drilling Section
cc: Central File
cc: D. L. Clemmer
Permit No. 597

RECEIVED
JAN 0 1973
O & G CONS. COMM.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

Formation	Top	Bottom	Description*
	0	850	Sd. and Conglomerate with red shale.
	850	1,150	Med. to coarse grained sand
	1,150	2,975	Red Clay, occassional sand
	2,975	7,300	Sand, shale and conglomerate
	7,300	7,710	Interbedded volconic tuff, sand and shale tuffaceous purple shale
	7,710	9,070	Interbedded, andesitic basalt flows and shale & some tuff from 8400 to 9070, welded tuff at base.
	9,070	9,525	Conglomerate
	9,525	10,036	Basalt vole. flow andesite & welded tuff.
	10,036	11,987	Conglomerate and shale
	11,987	T. D. 12,566 ft.	Basement, Qtz. monzonite

Log by Geologists D R McGregor, Ben Stanley, and Lyle Eberly.

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

PLUGGING RECORD

Operator	Address
Humble Oil & Refining Company	P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number, or lessor's name if fee lease.	Well No.	Field & Reservoir
State (32) State Lease No. 14232	1	Wildcat - Core Test

Location of Well	Sec-Twp-Rge or Block & Survey	County
2,210' FSL & 2,210' FWL	Section 5, T-16-S, R-15-E	Pima

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
Humble Oil & Ref. Co.	No	Dry Hole	Dry Hole	Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
December 18, 1972	12,556	None	None	None

Name of each formation containing oil or gas. Indicate which formation open to wellbore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement
None - Dry Hole		9650 - 9550	50 SKS
		6300 - 6200	55 SKS
		3030 - 2930	125 SKS
		20 - 0	20 SKS

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
16"	* 203'	None	203'	- -	None
10-3/4"	**2,970'	None	2,970'	- -	None
	* Set at 199'				
	** Set at 2,982'				

Was well filled with mud-laden fluid, according to regulations?	Indicate deepest formation containing fresh water.
Yes	1,100'

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
State of Arizona	4515 N. 7th Avenue, Phoenix, Arizona	- -

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Division Drlg. Oper. Supt. of the Humble Oil & Refining Company (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

December 21, 1972
Date

H. G. Davidson
Signature

H. G. Davidson

RECEIVED

DEC 29 1972

O & G CONS. COMM.

Permit No. 597

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record
File One Copy

Form No. 10

APPLICATION TO ABANDON AND PLUG

FIELD Wildcat - Core Test

OPERATOR Humble Oil & Refining Company ADDRESS P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number
or Lessor's Name if Fee Lease State (32) WELL NO. 1

SURVEY T-16-S, R-15-E SECTION 5 COUNTY Pima

LOCATION 2,210' FSL & 2,210' FWL

TYPE OF WELL Dry Hole (Oil, Gas or Dry Hole) TOTAL DEPTH 12,556

ALLOWABLE (If Assigned)

LAST PRODUCTION TEST OIL (Bbls.) WATER (Bbls.)

GAS (MCF) DATE OF TEST

PRODUCING HORIZON Dry Hole PRODUCING FROM TO

1. COMPLETE CASING RECORD

16" 65# HW casing - 203' set at 199' - cemented w/265 sx Class "A" - cement circulated

10-3/4" 40.5# J-55 casing - 2,970' set at 2,982' - cemented w/1,070 sx Class "B" - cement circulated

2. FULL DETAILS OF PROPOSED PLAN OF WORK

RECEIVED
DEC 26 1972
O & G CONS. COMM.

Plug and abandon well as follows:

Plug #1	9,650 - 9,550	w/50 sx cmt.
Plug #2	6,300 - 6,200	w/55 sx cmt.
Plug #3	3,030 - 2,930	w/125 sx cmt.
Plug #4	20 - 0	w/20 sx cmt.

Fill balance of hole w/8.9#/gal. mud; verbal approval obtained 12-14-72.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS 12-16-72

NAME OF PERSON DOING WORK Humble Oil & Refining Co. ADDRESS P. O. Box 1600, Midland Texas 79701

CORRESPONDENCE SHOULD BE SENT TO Humble Oil & Refining Company
Name

Division Drilling Superintendent
Title

Orig.& 1cc: OGCC - State of Arizona P. O. Box 1600, Midland, Texas 79701
Address

cc: Drilling Section
cc: Central File December 19, 1972
cc: D. L. Clemmer
Date

Date Approved 12-26-72

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: [illegible]

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies
Form No. 9

Permit No. 597

JDS

ASARCO

Southwestern Exploration Division

October 25, 1976

Memorandum to Staff

Drill Location Index

It has recently come to my attention that not everyone on the staff has seen the attached memo by WLK (9/12/74), or remembers it. I wish to emphasize the importance of this information to our overall effort -- particularly in Southern Arizona where most of our new projects involve drilling through post-mineral cover.

Please note the next to last paragraph -- use your own discretion as to how many water wells you want to record which bottom in alluvium. Record all wells which bottom in pre-mineral rock or are unusually deep. Presumably you might want to record more wells in areas of interest to Asarco than elsewhere.

Everyone can and better contribute to this effort. Were this work to result in an Asarco discovery the benefits to us all should be obvious. The reverse should also be obvious. I can think of at least one example where a water well intersected an orebody (Pyhasalmi in Finland). It could easily happen in S. Ariz.

F. T. Graybeal

F. T. Graybeal

FTG:lb
Atts.

cc: WLKurtz

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

September 12, 1974

MEMORANDUM TO GEOLOGISTS

As we continue to explore the covered areas it becomes increasingly important to know the results of all previous drill penetrations (water well, geothermal well, oil and gas well, exploration hole). So we may have this data readily accessible and easily useable, I should like to institute the following procedure:

1) Plot drill holes on the AMS sheets showing only location, total depth, thickness of postmineral cover, and premineral rock type.

2) Record all known data on an 8-1/2 x 11 sheet to be filed by Township and Range in a looseleaf folder. Included on this sheet should be information such as: accurate location, drill contractor, for whom drilled, date, rock types, contact depths, assays, geochem data, core or cuttings on file, drilling problems, depth to water, etc., etc., and source of information.

   Where a number of holes exist, outline the area drilled and write the number of holes beside it. If we have a report on the area, the 8-1/2 x 11 sheet simply needs to make reference to that report (e.g., the Courtland-Gleeson area would be represented by a circle with number of drill holes written by it and the 8-1/2 x 11 sheet would make reference to the "Evaluation of Bear Creek's Courtland Gleeson property" and Asarco's "Turquoise Project".

This index is primarily directed at keeping a record of competitor drilling. It is not necessary to plot all water wells on this index, but only those that are significant -- premineral bedrock penetration, thick section of postmineral valley fill. N. Whaley has been compiling and indexing water well data.

As time permits, give your information to Mrs. Kellogg to plot on the AMS sheets and detail information on attached form to Mrs. Bormolini for filing in looseleaf folder.

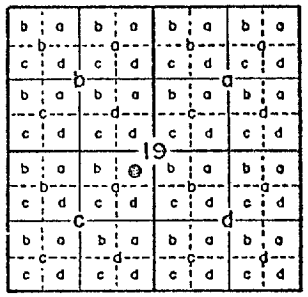
W. L. Kurtz

W. L. Kurtz

WLK:lb
Attach.

cc: JHCourtright
VMKellogg
LABormolini

Section Location Example



Section 19caa

DRILL RECORD

T_____ R_____

SEC_____

General File Reference:

Total Depth:

Postmineral thickness:

Premineral bedrock:

Source of Information:

Drill Contractor:

Company:

Date:

Geologic Log:

Assays, Geochem:

Core, cuttings on file:

Drilling Problems, Depth to Water:

Other:

9-12-74

AMERICAN SMELTING AND REFINING COMPANY
TUCSON ARIZONA

June 9, 1975

MEMORANDUM FOR STAFF

Please keep our drill location index up to date.

I consider this an important contribution to our overall exploration program.

W. L. Kurtz/lb
W. L. Kurtz

WLK:lb

cc: JHCourtright
LABormolini
VMKellogg

Verbal Steve van Nerto 4/18/73

Hanna - Sol Kuzyia

Gravel 0-700

700-900 Rhyolite slide block
w/ propylitic alt

900-1277 Gravel - cgl

1277 - bedrock of Qtz monzonite
w/ alteration - mineralization ??

Another hole collared next to an outcrop surrounded by gravels went to +1500 feet in gravels!

Stockton Hill

Muleshoe Project, Quintana Minerals
Cochise County, Az
T 20 S, R 24 E.

QMS-1, Section 28, 1475' FNL & 2480' FEL
QMS-2, Section 21, 100' FSL & 950' FWL
(Note: fig 2, scales only 5000' along section lines.

QMS-1 started 2/7/76, completed 3/24/76
T.D. 3598', Boyles Brothers, DMX Rotary.
Collar elev 4675', vertical
loc E½ NW¼, Sec. 28.

0-60 Qal — SO Volcanics
60-1200 Qty lithic tuff, tuff ss. & lithic, rhy tuff, rhy.
1200-~~3340~~ 3430 Bisbee Fm mudstone & siltstone, cgl & limestone No alt-min.
~~3340~~-
3430-3598 T.D. Gleason Qtz Mony. tr diss, vfg py, wkly alt clay, mafic dike (diorite?) 3501-3525.

Rotary w/spot cores Surf-3002.
spot cores: 770-775; 1085-1090; 1201-1205; 1835-1836; 2525-2530;
NX Core ~~3002~~ 3002-

direct drilling costs $14.50/ft

QMS-2 started 3/30/76, completed 5/6/76 T.D. 3495 Boyles DMX.
vertical, collar elev 4730, loc SW¼SW¼ Sec. 21.

0-20 Qal
20-1100 Tuff etc (Stockton Volcanics) — SO Volcanics.
1100-3210 Bisbee Fm ss, mudstone, siltstone, lens No alt-min.
w/ fault box at base in mudst/siltstone
3210-3495 T.D. Gleason QM w/ minor xenolithic of Bisbee hornfels etc.
also some apatite, amphibolite (meta-diorite) weak alt (clay) some py.
Rotary: Surf.-3003.
NX Core: 3003-3495 T.D.

Total Exploration Costs $11.30/ft
direct drilling cost

Mulshoe Drilling Costs

Direct drill costs

Drill Hole	Rot Drilling ft	Rot Drilling ave/ft	Core drill ft	Core drill ave/ft	Total Cost
QMS-1	3002	11.25	596	30.71	$52,159
QMS-2	3003	9.82	492	24.45	41,534
Totals	5005		1088		93,439

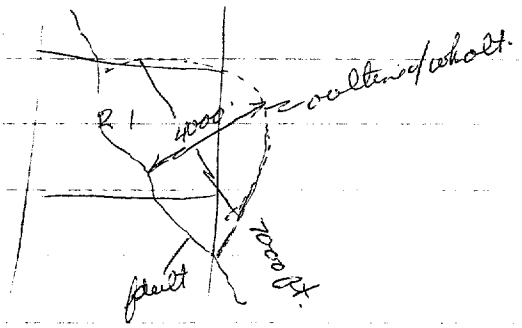
Total direct & indirect cost of drilling - $114,000.00
(is indirect cost = $20,400.00)

Total project costs ≅ $172,000.00

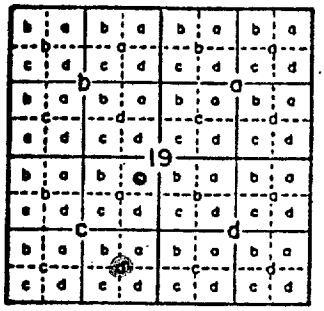
Overall ave direct costs = 14.50/ft QMS-1
= 11.85/ft QMS-2

more spot cores in QMS-1 (none in QMS-2)
& less cored footage in QMS-2
Boyles quoted core rate of 23.75/ft below 3000 ft.

both holes lined 5 7/8" with 3 1/2" OD casing set in rotary hole
penetration rates (overall) = 30-40 ft/8 hr shift with
penetration rate of core ≅ to rotary.



Section Location Example



Section 19caa

DRILL RECORD

HOLE DESIGNATION Geothermal Kinetics - AMAX Expl. 1.

T 7S R 8E

SEC 8 cd (center)

General File Reference: Pinal County General Ar-16A-0-0

Total Depth: 8024 feet

Postmineral thickness: O&GC files not checked

Premineral bedrock: Noted as "Tertiary" in WL Map #4.

Source of Information: O&GC report: Well Location Map Form (1977). (ASARCO File Copy).

Drill Contractor:

Company: Geothermal Kinetics and AMAX Exploration.

Date:

Completed 8/74

Geologic Log: See Oil & Gas Comm File #622

Assays, Geochem:

Core, cuttings on file:

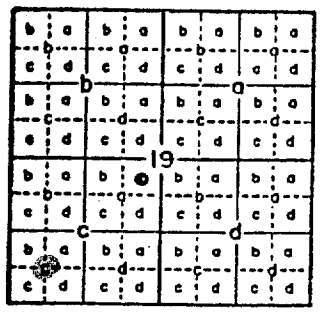
Drilling Problems, Depth to Water:

Other:

County: Pinal County, Arizona

Collar Elevation: 1529 Kelly Bushing (KB).

9-12-74



DRILL RECORD

HOLE DESIGNATION Western Oil Fields, Inc. No. 1 Florence

T 5 S R 10 E

SEC 31 cc (center)

General File Reference: Pinal County General Aa-16A-0-0

Total Depth: 5142 ft.

Postmineral thickness: 3310 ft.

Premineral bedrock: Diorite (bx)

Source of Information: Ariz. Oil & Gas Comm.

Drill Contractor:

Company: Western Oil Fields, Inc.

Date: 3-4-53 thru 5-27-53

Geologic Log: Operators logs. (See file for excerpts).
Oil & Gas Comm File #15

Assays, Geochem:

Core, cuttings on file: On file w/ Az Bur. Mines #260

Drilling Problems, Depth to Water:

Other:
County: Pinal County, Arizona
Collar Elevation: ≠ ~~1670~~
1665 GL.

9-12-74

GEOLOGICAL WELL SERVICE CO.
"Geo-Service"
WHITE BLDG. • ABILENE, TEXAS • U. S. A. • PHONES: 2-8996
2-6185
2-8355
2-9934

RECOMMENDATION

We do not recommend further drilling or testing on this lease. The tremendous amount of recent valley fill plus absence of possible oil and gas producing formations and penetration of almost 100% detrital grano-diorite (quartz diorite) consisting of quartz, plagioclase feldspar, ferromagnesian minerals, (biotite, hornblende, and pyroxene) indicates basement complex or close proximity to basement complex which rules out the possibility of penetrating a sedimentary section necessary for oil and gas accumulation.

Dan Kralis
Co-Owner
Geologist-in-charge

WESTERN OIL FIELDS, INC.--NO. 1 FLORENCE

PINAL COUNTY, ARIZONA

SECTION 31 CENTER SW SW, T-5S, R-10E

FGA Flowline Gas Analysis
MGA Mud Gas Analysis
CGA Cuttings Gas Analysis

1995-2000 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, 60% plagioclase, 10% orthoclase, angular, 10% quartz, 20% chlorite, minor quantities of olivine, biotite and muscovite, hematitic stain on 20% of feldspar fragments, siliceous cement, bright to vitreous luster, good intergranular porosity; trace of caliche; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA Methane 0.0%, Ethane 0.0%, MGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 1995-96-10 minutes; 96-97-9 minutes; 97-98-8 minutes; 98-99-9 minutes; 99-2000-9 minutes.

2000-2005 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, angular fragments, bright to vitreous luster, siliceous cement, 70% plagioclase, 10% orthoclase, 5% quartz, 15% chlorite, minor quantities of olivine, biotite and muscovite, hematitic stain on 50% of feldspar fragments, good intergranular porosity; trace of caliche; no odor, no stain, no fluorescence, no cut with carbon tetrachloride; FGA Methane 0.0%, Ethane 0.0%, MGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2000-01-9 minutes; 01-02-5 minutes; 02-03-8 minutes; 03-04-10 minutes; 04-05-13 minutes.

Round trip at 2009'; out of hole 9:45 A.M.; on bottom and drilling at 11:43 A.M.

Ran Bit #22, Hughes OWS, 9 7/8".

2005-2010 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, angular, bright to vitreous luster, siliceous cement, 80% plagioclase, 10% orthoclase, 10% chlorite, minor quantities of olivine, biotite, 75% of sample has hematite stain, good intergranular porosity; trace of caliche; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA Methane 0.0%, Ethane 0.0%, MGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2005-06-10 minutes; 06-07-11 minutes; 07-08-11 minutes; 08-09-17 minutes; 09-10-8 minutes.

2010-2015 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, angular, bright to vitreous luster, siliceous cement, 80% plagioclase, 10% orthoclase, 10% chlorite, minor quantities of quartz, olivine and biotite, red hematitic stain predominant, good intergranular porosity; trace of caliche; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA Methane 0.0%, Ethane 0.0%, MGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2010-11-10 minutes; 11-12-5 minutes; 12-13-4 minutes; 13-14-5 minutes; 14-15-4 minutes.

2095-2100 Sandstone 100%, arkose, white, gray to pink, very coarse grain feldspar, loosely to unconsolidated, angular, subvitreous to vitreous luster, siliceous, limey cement, 60% plagioclase, 30% orthoclase, 10% quartz, strong trace chlorite and hornblend, good intergranular porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2095-96-8 minutes; 96-97-13 minutes;97-98-9 minutes; 98-99-5 minutes; 99-2100-7 minutes;

2100-2105 Sandstone 100%, arkose, white, gray to pink, very coarse grain feldspar, loosely to unconsolidated, angular, subvitreous to vitreous luster, siliceous, limey cement, 60% plagilclase, 30% orthoclase, 10% quartz, strong trace of chlorite and hornblend, good intergranular porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2100-01-6 minutes; 01-02-6 minutes; 02-03-5 minutes; 03-04-4 minutes; 04-05-4 minutes;

2105-2110 Sandstone 100%, arksoe, white, gray to pink, very coarse grain feldspar, loosely to unconsolidated, angular, subvitreous luster, siliceous, limey cement, 60% plagioclase, 30% orthoclase, 10% quartz; strong trace of chlorite and hornblende, good intergranular porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2105-06-5 minutes; 06-07-5 minutes; 07-08-6 minutes; 08-09-7 minutes; 09-10-5 minutes;

2110-2115 Sandstone 100%, arkose, white, gray to pink, very coarse grain, feldspar, loosely to unconsolodiated, anuglar, subvitreous to vitreous luster, limey, silicerou cement; 60% plagilclase, 30% orthoclase, 10% quartz, strong trace of chlorite and hornblende, good intergranular porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2110-11-6 minutes; 11-12-6 minutes; 12-13-5 minutes; 13-14-7 minutes; 14-15-8 minutes;

Twisted off pipe at 2117' at 2:06 a.m., waiting on overshot;

';00 a.m., still waiting on overshot to arrive.

2675-2680 Sandstone 100%, arkose, white to gray, medium grained, loosely consolidated, poorly cemented, angular, predominantly plagioclase; strong trace of quartz, chlorite, talc, hematite, serpentine; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2675-76-21 minutes; 76-77-17 minutes; 77-78-16 minutes; 78-79-13 minutes; 79-80-19 minutes.

2680-2685 Sandstone 100%, arkose, white to gray, medium grain, loosely consolidated, poorly cemented, angular, predominantly plagioclase; strong trace of quartz, chlorite, talc, serpentine, hematite; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane0.0%; Drilling time: 2680-81-20 minutes; 81-82-13 minutes; 82-83-8 minutes; 83-84-10 minutes; 84-85-18minutes.

Weight on bit: 20,000#.

2685-2690 Sandstone 100%, arkose, white to gray, medium grain, angular, loosely consolidated, poorly cemented, predominantly plagioclase; strong trace of quartz, chlorite, serpendtine, talc, hematite; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2685-86-20 minutes; 86-87-15 minutes; 87-88-21 minutes; 88-89-21 minutes; 89-90-17 minutes.

Weight on bit: 20,000#.

2690-2695 Sandstone 100%, arkose, white to gray, medium grains, angular, loosely consolidated, poorly cemented, predominantly plagioclase; strong trace of quartz, chlorite, serpentine, talc, hematite; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane0.0%, Ethane0.0%; Drilling time: 2690-91-16 minutes; 91-92-10 minutes; 92-93-20 minutes; 93-94-19 minutes; 94-95-19 minutes.

Weight on bit: 20,000#.

2695-2700 Sandstone 100%, arkose, white to gray, medium grain, angular, consolidated, poorly cemented, predominantly plagioclase; strong trace of quartz, chlorite, serpentine, talc, hematite, calcite; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2695-96-12 minutes; 96-97-13 minutes; 97-98-10 minutes; 98-99-17 minutes; 99-00-13 minutes.

2700-2705 Sandstone 100%, arkose, white to gray, medium grain, angular, loosely consolidated, poorly cemented, predominantly plagioclase; strong trace of quartz, chlorite, serpentine, talc, hematite, calcite; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2700-01-15 minutes; 01-02-15 minutes; 02-03-13 minutes; 03-04-11 minutes; 04-05-8 minutes.

8:00 a.m.

2705-2710 Sandstone 100%, arkose, white to gray, medium to coarse grained, angular, loosely consolidated, poorly consolidated, bright to subvitreous luster, 90% plagioclase, 10% chlorite, minor quantities of orthoclase; serpentine, hematite and calcite; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA, MGA, CGA Methane0.0%, Ethane 0.0%; Drilling time: 2705-06-11 minutes; 06-07-11 minutes; 07-08-8 minutes; 08-09-11 minutes; 09-10-16 minutes.

Round trip at 2713'; out of hole at 9:23 a.m.; ran bit # 30, Hughes OSC-R; 8 3/4"; reamed 7' to bottom; on bottom and drilling at 12:37 p.m.

2710-2715 Sandstone 100%, arkose, white to gray, coarse grained, medium soft, angular, bright to subvitreous luster, loosely consolidated, 70% plagioclase, 20% orthoclase, 5% hornblende, 5% chlorite; minor quantities of calcite, serpentine, biotite; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA, MGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2710-11-25 minutes; 11-12-15 minutes; 12-13-13 minutes; 13-14-18 minutes; 14-15-20 minutes.

2715-2720 Sandstone 100%, arkose, white to gray, coarse grained, medium soft, angular, bright to subvitreous luster, loosely consolidated, 60% plagioclase, 20% orthoclase, 10% hornblende, 10% chlorite; minor quantities of calcite, serpentine and biotite; no odor, no stain, no fluorescence, no carbon tetrachloride cut; MGA, FGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2715-16-24 minutes; 16-17-21 minutes; 17-18-5 minutes; 18-19-15 minutes; 19-20-18 minutes.

4:00 p.m.

2720-2725 Sandstone (?) 100%, arkose, white to gray, pink, coarse grained, angular, subvitreous luster, loosely consolidated, 50% plagioclase, 30 % orthoclase; 10% quartz, 10% hornblende, chlorite and biotite; trace calcite, hematite and serpentine; no odor, no stain, no fluorescence, no carbon tetrachloride cut;MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2720-21-34 minutes; 21-22-23 minutes; 22-23-20 minutes; 23-24-22 minutes; 24-25-23 minutes.

Weight on bit: 25,000#.

2725-2730 Sandstone 100%, arkose, white, gray, coarse grained, angular, subvitreous to vitreous, loosely consolidated, 70% plagioclase, 20% orthoclase, 10% hornblend, chlorite and biotite; trace calcite, hemitite, serpentine; no odor, no stain, no fluorescence, no carbon tetrachloride cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 2725-26-13 minutes; 26-27-16 minutes; 27-28-17 minutes; 28-29-15 minutes; 29-30-18 minutes.

2730-2735 Sandstone (?) 100%, arkose, white to gray, coarse grained, angular, loosely consolidated, 80% plagioclase, 10% orthoclase, 10%hornblende, chlorite and biotite; strong trace calcite, hematite and talc; no odor, no stain, no fluorescence, no carbon tetrachloride cut;MGA, BMGA, CGA Methane0.0%, Ethane 0.0%; Drilling time: 2730-31-17 minutes; 31-32-11 minutes; 32-33-20 minutes; 33-34-20 minutes; 34-35-20 minutes.

Weight on bit: 23,000#.

Stopped drilling at 8:11 p.m.; connection at 2737'; resumed drilling at 8:17.

Mud Analysis: (9:30 p.m.) Viscosity 30, Water loss 14, pH 6, Weight 8.6, Cake 1/32, Salt none.

Round trip: 3200'; out of hole 1:52 P.M.

4:00 P.M. April 7, 1953

New Bit #34, Hughes OWC; totco 11°.

On bottom 8:52 P.M.; total time 6 hours for trip and reaming.

3195-3200 Sandstone 100%, arkose, white to light gray, some pink, coarse grained, angular, vitreous to subvitreous luster, loosely consolidated, 60% plagioclase, 30% orthoclase, 10% chlorite, trace biotite and talc; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3195-96-8 minutes; 96-97-10 minutes; 97-98-8 minutes; 98-99-13 minutes; 99-3200-17 minutes.

Drilling weight 20,000#.

3200-3205 Sandstone 100%, arkose, white, gray and pink, coarse grained, angular, loosely consolidated, vitreous to subvitreous luster, medium soft, 45% plagioclase, 40% orthoclase, 15% chlorite and talc; trace biotite; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3200-01-10 minutes; 01-02-10 minutes; 02-03-14 minutes; 03-04-8 minutes; 04-05-11 minutes.

3205-3210 Sandstone 100%, arkose, white, gray, pink, green, black, coarse grained, angular, loosely consolidated, vitreous to subvitreous luster, medium soft, 55% plagioclase, 30% orthoclase, 15% chlorite and talc, trace biotite; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3205-06-9 minutes; 06-07-11 minutes; 07-08-8 minutes; 08-09-8 minutes; 09-10-9 minutes.

Drilling weight 20,000#.

3210-3215 Sandstone 100%, arkose, white, gray, pink, green, black, medium to coarse grained, angular, loosely consolidated, vitreous to subvitreous luster, medium soft, 75% plagioclase, 10% orthoclase, 15% chlorite and talc, trace biotite; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3210-11-8 minutes; 11-12-10 minutes; 12-13-7 minutes; 13-14-7 minutes; 14-15-9 minutes.

Stopped drilling 10:10 P.M.; connection 3216'; resumed drilling 10:17 P.M.

3215-3220 Sandstone 100%, arkose, white, light gray, pink, dark green, black, medium to coarse grained, angular, loosely consolidated, vitreous to subvitreous luster, medium soft, 75% plagioclase, 10% orthoclase, 15% chlorite, trace biotite and talc; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3215-16-4 minutes; 16-17-5 minutes; 17-18-5 minutes; 18-19-9 minutes; 19-20-8 minutes.

12:00 Midnight

3495-3500 Talus Breccia Diorite 100%, gray to white, speckled with pink, green, black, angular fragments, loosely consolidated, hard, subvitreous luster; 80% plagioclase, 10% orthoclase, 10% chlorite, biotite; trace of olivene, hematite, calcite, limonite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3495-96-25 minutes; 96-97-26 minutes; 97-98-20 minutes; 98-99-22 minutes; 99-00-21 minutes.

3500-3505 Talus Breccia Diorite 100%, gray to white, speckled with pink, green and black; angular fragments, loosely consolidated, hard, subvitreous luster; 80% plagioclase, 10% orthoclase, 10% chlorite and biotite; trace of olivene, hematite, limonite, calcite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3500-01-27 minutes; 01-02-33 minutes; 02-03-21 minutes; 03-04-13 minutes; 04-05-21 minutes.

3505-3510 Talus Breccia Diorite 100%, gray to white, speckled with pink, green and black, angular fragments, loosely consolidated, hard, subvitreous luster; 80% plagioclase, 10% orthoclase, 10% chlorite and biotite; trace of olivene, hematite, limonite and calcite; no odor, no visible porosity, no stain, no fluorescence, no cut; MGA, BMGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3505-06-21 minutes; 06-07-21 minutes; 07-08-24 minutes; 08-09-23 minutes; 09-10-21 minutes.

8:00 a.m. April 15, 1953.

from 3788.15 to 3787.15'; jetted pits.

3780-3785 Diorite Breccia 100%, gray, white, some green, medium to coarse grain, dull to vitreous luster, calcareous and hematitic cement, angular fragments, 60% plagioclase, 20% orthoclase, 20% chlorite and talc, no visible porosity; trace of hematite, calcite and olivine; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3780-81-9 minutes; 81-82-6 minutes; 82-83-8 minutes; 83-84-6 minutes; 84-85-8 minutes.

Down from 7:21 to 7:27 P.M.; jetted pits.

3785-3790 Diorite Breccia 100%, white to gray, some green, medium to coarse grain, subvitreous to vitreous luster, calcareous and hematitic cement, angular fragments, 70% plagioclase, 20% orthoclase, 10% chlorite and talc; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3785-86-7 minutes; 86-87-8 minutes; 87-88-6 minutes; 88-89-7 minutes; 89-90-7 minutes.

3790-3795 Diorite Breccia 100%, white to gray, some green, medium to coarse grain, red, subvitreous to vitreous luster, calcareous and hematitic cement, angular fragments, 70% plagioclase, 20% orthoclase, 10% chlorite and talc; trace of hematite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3790-91-6 minutes; 91-92-8 minutes; 92-93-7 minutes; 93-94-9 minutes; 94-95-9 minutes.

Drilling weight 20,000#.

3795-3800 Diorite Breccia 100%, white to gray, some green, red, medium to coarse grain, subvitreous to vitreous luster, calcareous and hematitic cement, angular fragments, 70% plagioclase, 20% orthoclase, 10% chlorite and talc; trace of hematite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3795-96-10 minutes; 96-97-10 minutes; 97-98-9 minutes; 98-99-9 minutes; 99-3800-7 minutes.

3800-3805 Diorite Breccia 100%, white to gray, some green, red, medium to coarse grain, subvitreous to vitreous luster, calcareous and hematitic cement, angular fragments, 70% plagioclase, 20% orthoclase, 10% chlorite and talc; trace of hematite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3800-01-8 minutes; 01-02-7 minutes; 02-03-8 minutes; 03-04-7 minutes; 04-05-8 minutes.

3805-3810 Diorite Breccia 100%, dark gray, white, gray, some green and pink, coarse grain, dull to subvitreous luster, calcareous cement, angular fragments, badly weathered feldspar in part, plagioclase 60%, orthoclase 20%, chlorite 10%, talc 10%; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 3805-06-7 minutes; 06-07-8 minutes; 07-08-11 minutes; 08-09-7 minutes; 09-10-8 minutes.

4295-4300 Diorite Breccia 100%, gray and white, some green and buff, medium hard, angular fragments, subvitreous to vitreous luster, calcareous cement, 60% plagioclase, 10% decomposed feldspar, 10% orthoclase, 10% chloride, 10% talc, no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4295-96-6 minutes; 96-97-3 minutes; 97-98-10 minutes; 98-99-8 minutes; 99-4300-12 minutes.

Drilling weight 26,000#.

4300-4305 Diorite Breccia 100%, white and gray, some green and pink, medium hard, angular fragments, calcareous cement, subvitreous to vitreous luster, 60% plagioclase, 20% chlorite, 10% talc, 10% orthoclase, minor quantities of hematite, no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0 %, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4300-01-14 minutes; 01-02-7 minutes; 02-03-7 minutes; 03-04-12 minutes; 04-05-13 minutes.

6:00 P.M.

4305-4310 Diorite Breccia 100%, white and gray, some green and pink, coarse grain, angular fragments, calcareous cement, subvitreous to vitreous luster, 75% plagioclase, 10% orthoclase, 10% chlorite, 5% talc; trace of hematite; no visible porosity; no odor, stain fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4305-06-15 minutes; 06-07-22 minutes; 07-08-26 minutes; 08-09-18 minutes; 09-10-22 minutes.

Round trip at 4313'; stopped drilling at 8:40 P.M.; resumed drilling 12:15 A.M.; total time 3 hours 35 minutes.

Bit #53, Hughes OWS-R.

Drilling weight 22,000#.

4310-4315 Diorite Breccia 100%, white and gray, some green and pink, coarse grain, angular fragments, calcareous cement, subvitreous to vitreous luster, 70% plagioclase, 10% orthoclase, 10% chlorite, 10% talc, trace of olivene and hematite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4310-11-22 minutes; 11-12-25 minutes; 12-13-10 minutes; 13-14-22 minutes; 14-15-22 minutes.

4315-4320 Diorite Breccia 100%, white and gray, some green and pink, coarse grain, angular fragments, calcareous cement, subvitreous to vitreous luster, 70% plagioclase, 10% orthoclase, 10% chlorite, 10% talc, trace of olivine and hematite; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4315-16-9 minutes; 16-17-18 minutes; 17-18-10 minutes; 18-19-16 minutes; 19-20-12 minutes.

Connection at 4324'; down from 2:53 to 3:03 A.M.

fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; MGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4485-86-20 minutes; 86-87-15 minutes; 87-88-20 minutes; 88-89-22 minutes; 89-90-17 minutes;

4490-4495 Diorite breccia 100%, dark gray, green, black and white, medium grained, medium hard, bright to vitreous luster, angular to tabular fragments, 50% plagioclase with chlorite and biotite inclusions, 20% biotite, 15% chlorite, 15% talc, no visible porosity; no odor, no stain, no fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; MGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4490-91-21 minutes; 91-92-21 minutes; 92-93-16 minutes; 93-94-18 minutes; 94-95-16 minutes;

6:00 p.m.

4495-4500 Diorite breccia 100%, dark gray, white, green, black, medium grained, wub-vitreous to vitreous luster, angular fragments, 60% plagioclase, 20% biotite, 15% talc, 5% chlorite; trace of quartz and gabbro; no visible porosity; no odor, no stain, no fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4495-96-22 minutes; 96-97-23 minutes; 97-98-23 minutes; 98-99-16 minutes; 99-4500-26 minutes;

Drilling weight 20,000#

Down from 6:43 to 6:50 p.m.

Stopped drilling at 7:42 p.m.; round trip at 4504'; resumed drilling at 11:55; slapsed time 4 hours and 13 minutes; Bit #57, OWS-R;

Connection at 4506', down from 12:11 to 12:20 a.m.

4500-4505 Diorite breccia 100%, white, green, black, dark gray, medium grain, sub-vitreous to vitreous luster, angular fragments, 50% plagioclase, 20% chlorite, 20% biotite, 10% talc, trace of calcite, quartz, and muscovite; no visible porosity, no odor, no stain, no fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4500-01-28 minutes; 01-02-38 minutes; 0-203-13 minutes; 03-04-20 minutes; 04-05-34 minutes;

4505-4510 Diorite breccia 100%, white, green, black, dark gray, medium grain, sub-vitreous to vitreous luster, angular fragments, 70% plagioclase, 15% chlorite, 5% talc, 10% biotite, trace of calcite, muscovite and quartz; no visible porosity; no odor, no stain, no fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%, Ethane 0.0%; CGA Methane 0.0%, Ethane 0.0%; Drilling time: 4505-06-10 minutes; 06-07-7 minutes; 07-08-10 minutes; 08-09-14 minutes; 09-10-18 minutes;

Down from 2:22 to 2:26 a.m.

4510-4515 Diorite breccia 100%, white, gray, green, black, some pink, medium grain, hard, sub-vitreous to vitreous luster, angular fragments, 50% plagioclase, 20% orthoclase, 15% biotite, 10% chlorite, 5% talc, traces of calcite, miscovite and quartz; no visible porosity; no odor, no stain, no fluorescence, no cut; FGA Methane 0.0%, Ethane 0.0%; BMGA Methane 0.0%

Mud Analysis: (3:00 A.M. May 14, 1953) viscosity 31, weight 8.6, water loss 20.4, filter cake 1/32, pH 7, salt content--nil.

5110-5115 Diorite Breccia 90%, gray, white, some pink, black, and red, hard, subvitreous to vitreous luster, angular to subangular fragments, 40% plagioclase, 20% orthoclase, 10% talc, 10% serpentine, 5% chlorite, 5% quartz; shale 10%, gray, gray green, some red, fissile, flaky to chunky, soft to medium hard, slightly calcareous, no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%, Drilling time: 5110-11-76 minutes; 11-12-37 minutes; 12-13-28 minutes; 13-14-47 minutes; 14-15-48 minutes.

6:00 A.M. May 14, 1953

5115-5120 Diorite Breccia 100%, gray and white, some black, green and red, medium hard, vitreous luster, angular to subrounded fragments, calcareous, 60% plagioclase, 15% biotite, 15% orthoclase, 10% talc, traces of quartz and shale; no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%; Drilling time: 5115-16-46 minutes; 16-17-40 minutes; 17-18-80 minutes; 18-19-41 minutes; 19-20-45 minutes.

Drilling weight 25,000#.

Round trip at 5122'; out of hole 10:00 A.M.; reamed 45' to bottom; on bottom and drilling 3:10 P.M.; total time 5 hours 10 minutes.

Ran Bit #78, Hughes, W7R, 7 7/8".

5120-5125 Diorite Breccia 100%, gray and white, some black, green and red, medium hard, vitreous luster, angular to subrounded fragments, calcareous, 60% plagioclase, 15% orthoclase, 10% biotite, 10% talc, 5% hematite and limonite; traces shale and quartz, no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 5120-21-56 minutes; 21-22-23 minutes; 22-23-29 minutes; 23-24-21 minutes; 24-25-51 minutes.

6:00 P.M. May 14, 1953

Down from 6:23 to 6:46 P.M.; jet pits.

5125-5130 Granodiorite Breccia 100%, white, clear, gray, some black, green, pink and red, hard, vitreous luster, angular fragments, calcareous, 40% plagioclase, 20% orthoclase, 20% quartz, 10% biotite, 5% chlorite, 5%, talc; traces of hematite, no visible porosity; no odor, no stain, no fluorescence, no cut; MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 5125-26-45 minutes; 26-27-40 minutes; 27-28-49 minutes; 28-29-56 minutes; 29-30-45 minutes.

5130-5135 Diorite Breccia 100%, white, clear, gray, some black, green, pink and red, vitreous luster, hard, angular fragments, calcareous, 50% plagioclase, 15% orthoclase, 10% quartz, 10% biotite; 10% talc, 5% chlorite, no visible porosity; no odor, no stain, no fluorescence, no cut;

MGA Methane 0.0%, Ethane 0.0%, BMGA Methane 0.0%, Ethane 0.0%, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 5130-31-52 minutes; 31-32-49 minutes; 32-33-38 minutes; 33-34-59 minutes; 34-35-66 minutes.

Mud Analysis: (3:00 A.M. May 15, 1953) viscosity 33, weight 8.6, water loss 18.8, filter cake 1/32, pH 7, salt content--nil.

Drilling weight 30,000#.

Round trip at 5136'; stopped drilling 3:43 A.M.

6:00 A.M. May 15, 1953.

Ran bit # 79, Hughes OWSR-7 7/8"; on bottom and drilling at 8:20 a.m.

Connection at 5140'; down from 12:37 p.m. to 12:44 p.m.

5135-5140 Diorite Breccia 100%, gray and white, some black, green, and red, hard, subvitreous to vitreous luster, angular to subrounded fragments, calcareous, 60% plagioclase, 15% orthoclase, 10% biotite, 10% quartz, 5% talc, trace of chlorite and hematite, no visible porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut; FGA Methane 0.0%, MGA, CGA Methane 0.0%, Ethane 0.0%; Drilling time: 5135-36-59 minutes; 36-37-83 minutes; 37-38-75 minutes; 38-39-83 minutes; 39-40-48 minutes.

Round trip at 5141'; out of hole at 4:02p.m.; on bottom and drilling; total time elapsed: 4 hours, 1 minute; bit # 80, Hughes W7R.

Stopped drilling at 8:36 p.m.; waiting for orders.

Depth--5142'; Depth correction 5141' (trip)--5142'.

Total Depth ----- 5142'.

WESTERN OIL FIELDS, INC.— NO. 1 FLORENCE PINAL COUNTY, ARIZONA

Section 31 Center SW SW, T-5S, R-10E

Driller's Log

DATE	DEPTHS	FORMATION	REMARKS
3-6-53			Spudded 8:00 a.m.
	0-140	Surface sand	
	140-313	Water sand	
	313-376	Red beds	
3-7-53	376-402	Red beds	Run 385'-10 3/4" casing. Cemented at 397' w/100 sacks. Plug down at 9:00 p.m.
3-8-53			W.O.C.
3-9-53	402-524	Sand and gravel	9 7/8" bit. Drilled plug at 9:00 p.m. re-cem. surface w/15 sax.
3-10-53	524-610	Sand and gravel	Pulled 10 3/4" csg. and drill ahead.
3-11-53	610-761	Sand and gravel	15" bit.
	761-785	Red beds	
	785-795	Gravel	
3-12-53			W.O. 10 3/4" csg.
3-13-53			W.O. 10 3/4" csg.
3-14-53			Run 808'-10 3/4"-32.75# csg. cem. at 795' w/200 sacks. Plug down at 10:30 a.m.
3-15-53			W.O.C.
3-16-53			W.O.C.
3-17-53	795-925	Sand and gravel	9 7/8" bit.
3-18-53	925-946	Sandy lime	
	946-1115	Sand and shale	
3-19-53	1115-1263	Sand and shale	
3-20-53	1263-1297	Sand and shale	
	1297-1323	Sand	
	1323-1378	Sand and shale	
3-21-53	1378-1433	Sand and lime	
	1433-1520	Sand and shale	
3-22-53	1520-1674	Sand and shale	
3-23-53	1674-1878	Sand and shale	
3-24-53	1878-1948	Sand and shale	
3-25-53	1948-1995	Sand and shale	
3-26-53	1995-2117	See Geological Report 1995 to T.D.	Fishing for D.P.
3-27-53			Fishing
3-28-53	2117-2220		
3-29-53	2220-2331		
3-30-53	2331-2458		
3-31-53	2458-2578		
4-1-53	2578-2678		
4-2-53	2678-2743		
4-3-53	2743-2835		
4-4-53	2835-2936		
4-5-53	2930-3044		
4-6-53	3044-3125		
4-7-53	3125-3221		
4-8-53	3221-3283		
4-9-53	3283-3298		Twisted off-fishing
4-10-53			Fishing
4-11-53	3298-3345		Red. fish.
4-12-53	3345-3408		
4-13-53	3408-3456		Reamed 120' to bottom
4-14-53	3456-3490		
4-15-53	3490-3533		
4-16-53	3533-3570		
4-17-53	3570-3710		
4-18-53	3710-3817		
4-19-53	3817-3970		
4-20-53	3970-4096		
4-21-53	4096-4166		

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DATE	DEPTHS	FORMATION	REMARKS
4-22-53	4166-4235		
4-23-53	4235-4313		
4-24-53	4313-4383		
4-25-53	4383-4438		
4-26-53	4438-4506		
4-27-53	4506-4562		
4-28-53	4562-4583		Down 8 hrs. straighten kelley
4-29-53	4583-4609		Down 8 hrs. straighten kelley
4-30-53	4609-4692		
5-1-53	4692-4734		
5-2-53	4734-4778		
5-3-53	4778-4835		
5-4-53	4835-4889		
5-5-53	4889-4926		
5-6-53	4926-4942		Down 8 hrs. lost cones
5-7-53	4942-4942		Fished out cones-reaming
5-8-53	4942-4971		
5-9-53	4971-5003		
5-10-53	5003-5040		
5-11-53	5040-5071		
5-12-53	5071-5090		
5-13-53	5090-5109		
5-14-53	5109-5133		
5-15-53	5132-5142		
5-16-53 to 5-19-53			W.O. Orders
5-19-53 to 5-27-53			Dismantling rig

GEOLOGICAL REPORT OF FORMATIONS PENETRATED

1995-2005 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, good intergranular porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut;

2005-2050 Sandstone 100%, arkosic, gray, medium to coarse grained, medium soft, loosely consolidated, angular, red hematite stain, good intergranular porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2050-2115 Sandstone 100%, gray, arkosic, white and pink, medium to very coarse grained feldspar and some quartz, good intergranular porosity; no odor, no stain, no fluorescence, no cut.

2115-2135 Sandstone 100%, arkose, white, gray to pink, very coarse grain feldspar, loosely to unconsolidated, angular, good intergranular porosity; no odor, no stain, no fluorescence, no cut.

2135-2155 Sandstone 100%, arkose, white to gray, fine to coarse grained, medium soft, loosely consolidated, angular, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2155-2160 Sandstone 100%, arkose, white to gray to red, fine to coarse grained, medium soft, loosely consolidated, angular, copper and iron staining predominant, traces of free copper imbedded in calcite; no odor, no fluorescence, no carbon tetrachloride cut.

2160-2180 Sandstone 100%, arkose, white to gray, fine to coarse grained, medium soft, loosely consolidated, angular, copper and iron staining predominant, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2180-2275 Sandstone 100%, arkose, clear, white, gray with pink less common, fine to coarse grained, loosely consolidated, angular, probably fairly good intergranular porosity; no odor, no stain, no fluorescence, no cut.

2275-2325 Sandstone 100%, arkose, white to gray, medium to coarse grained, medium soft, angular, loosely consolidated, no odor, no stain, no fluorescence, no cut.

2325-2375 Sandstone 100%, arkose, white, gray to pink, hard, coarse grain, loosely to unconsolidated, no odor, no stain, no fluorescence, no cut.

2375-2550 Sandstone 100%, arkose, white to gray, medium to coarse grained, loosely consolidated, angular, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2550-2660 Sandstone 100%, arkose, gray, white, pink, coarse grained, angular, loosely consolidated, no visible but probable porosity; no odor, no stain, no fluorescence, no cut.

2660-2665 Sandstone 70%, arkose, white, gray, pink, coarse grained, angular, medium soft, fairly well consolidated, serpentine 30%, light green to gray, medium soft, no porosity; no odor, no stain, no fluorescence, no cut.

2665-2670 Sandstone 90%, arkose, white, gray, coarse grained, angular, medium soft, fairly well consolidated, no visible but probable porosity, serpentine 10%, light green, to gray, medium soft, no porosity; no odor, no stain, no fluorescence, no cut.

2670-2765 Sandstone 100%, arkose, white to gray, fine to medium grained, medium soft, loosely consolidated, angular, no odor, no stain, no fluorescence, no cut.

2765-2835 Sandstone 100%, arkose, white, pink to gray, medium to coarse grained, medium soft, angular, loosely consolidated; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2835-2855 Sandstone 100%, arkose, white to gray, medium grain, angular, loosely consolidated, no odor, no stain, no fluorescence, no cut.

2855-2860 Sandstone 100%, arkose, white to light gray with pink less common, coarse to very coarse grained, angular, loosely consolidated; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2860-2880 Sandstone 100%, arkose, white to light gray with pink less common, spotted black with ferro-magnesium minerals, coarse to very coarse grained, angular, loosely consolidated; no odor, no stain, no fluorescence, no cut.

2880-2925 Sandstone 100%, arkose, white to light gray with pink less common, coarse to very coarse grained, angular, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

2925-3015 Sandstone 100%, arkose, white to gray, medium to very coarse, angular, no odor, no stain, no fluorescence, no cut, no visible porosity.

3015-3040 Sandstone 100%, arkose, white to light gray with some pink, coarse grained, angular, good intergranular porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3040-3070 Sandstone 100%, arkose, white to gray, coarse grain, loosely consolidated, no odor, no stain, no fluorescence, no cut, no visible porosity.

3070-3090 Sandstone 100%, arkose, white to gray, fine to medium grained, angular, loosely consolidated, medium soft, no visible porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3090-3125 Sandstone 100%, arkose, white to light gray, with pink less common, angular, loosely consolidated, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3125-3165 Sandstone 100%, arkose, white to gray, coarse grain, angular, loosely consolidated, no visible porosity; no odor, no stain, no fluorescence, no cut.

3165-3180 Sandstone 100%, arkose, white, gray and pink, medium to coarse grained, medium soft, angular, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3180-3195 Sandstone 100%, arkose, white and gray, medium to coarse grained, angular, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3195-3205 Sandstone 100%, arkose, white to light gray, some pink, coarse grained, angular, loosely consolidate, no odor, no stain, no fluorescence, no cut.

3205-3220 Sandstone 100%, arkose, white, gray, pink, green, black, coarse grained, angular, loosely consolidated, medium soft, no odor, no stain, no fluorescence, no cut.

3220-3260 Sandstone 100%, arkose, white, light gray, coarse grain, angular, loosely consolidated, no visible porosity; no odor, no stain, no fluorescence, no cut.

3260-3275 Sandstone 80%, arkose, gray, white to pink, coarse grained, medium soft, loosely consolidated, angular, no odor, no stain, no fluorescence, no cut.

3275-3290 Sandstone 10%, arkose, white, light gray, green black, some pink and yellow, medium to coarse grained, angular, loosely consolidated, no odor, no stain, no fluorescence, no cut.

3290-3310 Sandstone 100%, arkose, gray to white, medium to coarse grained, loosely consolidated, no odor, no stain, no fluorescence, no cut with carbon tetrachloride cut.

3310-3355 Talus Breccia 100%, diorite, light gray to light pink, with green and black, equi-granular texture, angular fragments, hard, no visible but probably interstitual porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3355-3385 Diorite Breccia 100%, gray to white, some green and black, angular fragments, loosely consolidated, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3385-3390 Siltstone 100%, red and brown, medium soft, dull luster, chunky arenaceous, very micaceous, hematite, slightly calcareous; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3390-3395 Talus Breccia 95%, diroite, light gray to white, with green and black ferro-magnesium minerals, angular fragments, hard, loosely consolidated, no visible but probable interstitial porosity; Shale 5%, red, pink and spotted with black ferro-magnesium minerals, siltstone and claystone sized, arenaceous, no odor, no stain, no fluorescence, no cut.

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3395-3405 Talus breccia 100%, diorite, light gray, white with some pink, green and black, angular fragments loosely consolidated, no visible but probable interstitial porosity; no odor, no stain, no fluorescence, no cut.

3405-3430 Diorite Breccia 100%, white to gray, medium to coarse grained, some green and black, bright to vitreous luster, angular, loosely consolidated, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3430-3455 Strongly Alterated Feldspar 100%, light to dark gray with some green, pink and black, very micaceous, trace pyritic, medium soft, angular, loosely consolidated, granular; poor interstitial porosity; no odor, no stain, no fluorescence, no cut.

3455-3460 Talus Breccia 100%, white to gray, medium to coarse grained, hard, angular fragments loosely consolidated, no odor, no stain, no fluorescence, no cut.

3460-3510 Talus Breccia 100%, diorite, light gray to white, some pink, green and black, angular fragments, loosely consolidated, hard, no visible but probably interstitial porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3510-3535 Diorite Breccia 100%, white, gray, some pink, medium to coarse grained, some green and black, angular fragments, loosely consolidated, no odor, no stain, no fluorescence, no cut.

3535-3575 Diorite breccia 100%, white and gray, medium to coarse grained, some green and black, hard, angular fragments, no visible porosity; no odor, no stain, no fluorescence, no cut.

3575-3735 Diorite breccia 100%, white and gray, some red, green and black, medium to coarse grained, hard, angular fragments, some iron staining, no odor, no stain, no fluorescence, no carbon tetrachloride cut.

3735-4125 Diorite Breccia 100%, white and gray, some green, brown, and black, medium to coarse grained, medium soft, angular fragments, badly decomposed feldspar in appreciable quantity, much iron staining, no odor, no stain, no fluorescence, no cut.

4125-4205 Quartz-Diorite Breccia 100%, white and gray, some green and yellow, hard, angular fragments, no visible porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

4205-4225 Breccia 100%, decomposed feldspar and pyroxenes, green, medium soft, dull luster, moderatly calcareous, chunky, angular, minor quantity of diorite breccia; no odor, no stain, no fluorescene, no cut.

4225-4615 Diorite Breccia 100%, green and white, medium hard, angular fragments, no odor, no stain, no fluorescence, no cut.

4615-4635 Syenite Breccia 100%, light salmon pink, some white, gray, green, and black, angular, chunky fragments, no visible porosity; no odor, no stain, no fluorescence, not cut.

4635-4955 Diorite Breccia 100%, white, gray, some pink, black and green, medium hard, angular fragments, no odor, no stain, no fluorescence, no cut.

4955-4960 Shale 90%, gray, green, some red, soft, chunky, dull luster, slightly silty, calcareous, Diorite Breccia 10%, gray, green and white, some black and red, hard, flaky to angular fragments, no visible porosity; no odor, no stain, no fluorescence, no carbon tetrachloride cut.

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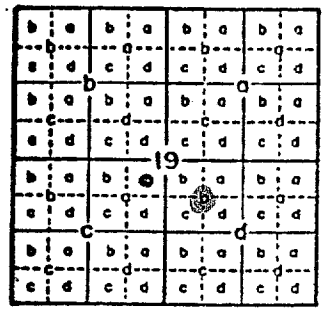
4960-4965 Diorite Breccia 90%, white, pink, some green, black and red, hard, angular, flaky to chunky frags; no visible porosity; no odor, no stain, no fluorescence, no cut.

4965-5125 Diorite Breccia 100%, white, gray, some pink, green, black, red, hard, angular, chunky, no visible porosity; no odor, no stain, no fluorescence, no cut.

5125-5130 Granodiorite Breccia 100%, white, clear, gray, some black, green, pink and red, hard, vitreous luster, angular fragments, no visible porosity; no odor, no stain, no fluorescence, no cut.

5130-5142 Diorite Breccia 100%, white, clear, gray, some black, green, pink and red, hard, angular fragments, no visible porosity; no odor, no stain, no fluorescence, no cut.



Section 19caa

DRILL RECORD

HOLE DESIGNATION Humble State 74-1

T 8S R 8E

SEC 2 dbc(cate)

Humble N of Picacho

General File Reference: Pinal County General, Aa-16 A.0.0

Total Depth: 10,179 ft.

Postmineral thickness: 0 - 10,055 ft.

Premineral bedrock:
Granite (Picacho Mtn).

Source of Information:
Ariz. Oil & Gas Conso. Comm.

Drill Contractor:
Lofland Drilling Company

Company:
Humble Oil & Refining Company

Date:
Spudded 6-8-72
Terminated 7-14-72

Geologic Log:
Operators log.

0 - 526	Sand & gravel
526 - 1690	Clay and shale
1690 - 8482	Anhydrite, shale, gypsum, salt, & tuff.
8482 - 8943	Conglomerate.
8943 - 10,055	Volcanic tuff, trachyte, date of 14.8 m.y (Damon).
10,055 - 10,179	Granite gneiss (metamorphic complex of Picacho Mountain).

Assays, Geochem:
None

Core, cuttings on file:
Core No. 1 from 10,133 to 10,144 ft — No recovery
Core No. 2 from 10,175 to 10,179 ft — Recovered 3 ft of qtz diorite gneiss.
Sample ~~probe~~ & cuttings probably on file with ABM & AO&GCC.

Drilling Problems, Depth to Water:

Other:
Collar Elevation 1580 ft.
Pinal County, Arizona
Other logs: IES, GR-BHC Sonic, Sidewall-9, Dipmeter

"Granite wash" from 9599-9875 with sample at 9750-9850 having pollen grains of Middle to Late Miocene to Pliocene age.

9-12-74

JDS

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [X]

DESCRIPTION OF WELL AND LEASE

Operator: Humble Oil & Refining Company	Address: P. O. Box 1600, Midland, Texas 79701
Federal, State or Indian Lease Number or name of lessor if fee lease: State (74) (State Lease No. 13774)	Well Number: 1 / Field & Reservoir: Stratigraphic Test Hole
Location: 1,980' FSL & 1,980' FEL NW¼SE¼	County: Pinal
Sec. TWP-Range or Block & Survey: Section 3, T-8-S, R-8-E 4 mile north of Picacho	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.)	Elevation of casing hd. flange
6-8-72	7-14-72	Dry Hole	1,580' GR feet	- - feet

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
10,179'	0'	Dry Hole	- -

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
Dry Hole	0 - 10,179'	- -

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No	No	- -

Type of electrical or other logs run (check logs filed with the commission)	Date filed
IES, GR-BHC Sonic, Laterlog - 9, Dipmeter	8-7-72

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Conductor	20"	16"	65#	37'	20 sx	None
Surface	13-3/4"	10-3/4"	40.5#	2,005'	914 sx	None

TUBING RECORD

Size	Depth set	Packer set at
None in.	ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	None ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval
None		

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval
None	

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)
Dry Hole	

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	° API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil	Gas	Water	Gas—oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Proration Specialist of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

September 11, 1972
Date

D. L. Clemmer
Signature
D. L. Clemmer

Orig.: OGCC - State of Arizona
cc: Drilling Section
cc: Central File
cc: D. L. Clemmer
Permit No. 583

RECEIVED
SEP 13 1972
O & G CONS COMM.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy
Form No. 4

Complete Reverse Side

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Surface	0	46	
Sd. & Gravel	46	526 Qal	
Clay & Shale	526	1,690	Core No. 1 from 10,133' to 10,144', no recovery.
Anhy Salt & Sh.	1,690	2,170	Core No. 2 from 10,175' to 10,179', core bbl.
Anhy & Shale	2,170	4,600	jammed, rec. 3' of core. (Rec 3½' of Qtz. Diorite Gneiss)
Anhy, Sh. & Salt	4,600	5,010	
Gyp	5,010	5,693	
Anhy & Shale	5,693	6,455	DST No. 1 from 8,640' to 8,710', opened tool for
Anhy & Ash	6,455	6,818	10 mins., IF period very weak blow, packer failed
Anhy & Shale	6,818	7,044	after 45 mins, tool was open 15 minutes of final
Anhy & Chert	7,044	7,525	flow period.
Anhy, Sh. & Tuff	7,525	8,250	
Sd., Salt & Anhy	8,250	8,482	DST No. 2 from 8,766' to 8,840'
Conglomerate	8,482	8,943 #1	DST No. 3 from 8,683' to 8,780'
Volc. Tuff	8,943	10,055 #2,3	DST No. 4 from 8,550' to 8,650'
Granite	10,055	10,179 #4	
			Dry Hole - Plugged and Abandoned on July 27, 1972.

1* log by Amer. Strat Co indicated pink granite granodiorite (clasts?) with qtz, biotite, feldspar, chlorite & muscovite

2* Pencil note at 9240-9270. "Trachyte (Warner) 14.8 m.y. - Miocene." contains red-brown vesicular, reddish gray color.

3* Log shows change at 9599 to 9875 is conglomerate of "granite wash." Pencil note from 9750-9850 "Palynological Analysis - Source Amoco. Pollen grains of middle & late Miocene to Pliocene age. No grains older than Miocene."

4* Log shows change @ 9875 to metamorphic of granite-gneiss (ie gy-gn) granodiorite?.

"Footnotes at bottom of Log.

Summary

		Spl Start
Tg	Tertiary Gravels	
Te	Tertiary Evaporite	1832 ?
G.W.	Granite Wash	9599 ?
Bsm	Basement	9875 ?

1. The igneous acid body at 8422 to 9058 is of granitic composition. This rock is possibly a granodiorite or granite. The igneous and metamorphic rocks in this well would require a petrographic study before proper rock names could be placed upon these rocks.
2. The intrusive from 9058 to 9599 was labeled an andesite or basaltic andesite by the operator.
3. The metamorphics from 9875 to total depth was reportedly been dated as being no older than Middle Tertiary. In appearance, these rocks seem to be metamorphosed granite rock.

(American Stratigraphic Company. Denver, Colorado. Log. No. D-3978.
Humble Oil & Refining, No. 1 Arizona State 74. Pinal County, Arizona.

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS:

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

PLICATION TO ABANDON AND P G

FIELD Wildcat - Core Test

OPERATOR Humble Oil & Refining Company ADDRESS P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number
or Lessor's Name if Fee Lease State (74) (State Lease No. 13774) WELL NO. 1

SURVEY T-8-S, R-8-E SECTION 2 COUNTY Pinal

LOCATION 1,980' FSL & 1,980' FEL

TYPE OF WELL Dry Hole (Oil, Gas or Dry Hole) TOTAL DEPTH 10,179'

ALLOWABLE (If Assigned)

LAST PRODUCTION TEST OIL (Bbls.) WATER (Bbls.)

GAS (MCF) DATE OF TEST

PRODUCING HORIZON Dry Hole PRODUCING FROM TO

1. COMPLETE CASING RECORD 10-3/4" 40.5# H-40 ST&C Casing (1,988') set at 2,005', cemented w/664 sx of Class "C" Cement w/8% gel and 2% Calc., followed w/250 sx Class "C" cement w/2% Calc., circ. 190 barrels cement.

2. FULL DETAILS OF PROPOSED PLAN OF WORK Plug and abandon well as follows: Plug No. 1, 8,000' to 8,100', 55 sacks cmt., Class "B"; Plug No. 2, 4,500' to 4,600', 55 sacks cmt., Class "B"; Plug No. 3, 1,955 to 2,055', 75 sacks cmt., Class "B"; Plug No. 4, 0' to 20', 10 sacks cmt., Class "B". Install dry hole marker with the following information: Humble Oil & Refining Company, State (74), Well No. 1, NW SW Sec. 2, T8S, R8E, State Drilling Permit No. 583. Veral approval was granted to P&A as shown above, this will confirm our telephone request.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS July 26, 1972

NAME OF PERSON DOING WORK Humble Oil & Refining Co. ADDRESS P. O. Box 1600, Midland, Texas 79701

CORRESPONDENCE SHOULD BE SENT TO Humble Oil & Refining Company
Name

Orig. & cc: OGCC - State of Arizona
cc: Drilling Section
cc: Central File
cc: D. L. Clemmer

Division Drilling Superintendent
Title

P. O. Box 1600, Midland, Texas 79701
Address

July 27, 1972
Date

Date Approved 7-26-72

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: [illegible]

RECEIVED

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies
Form No. 9

Permit No 583

JUL 31 1972

O & G CONS. COMM.

PLUGGING RECORD

Operator	Address
Humble Oil & Refining Company	P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number, or lessor's name if fee lease	Well No.	Field & Reservoir
State (74) State Lease No. 13774	1	Wildcat - Core Test

Location of Well	Sec-Twp-Rge or Block & Survey	County
1,980' FSL & 1,980' FEL	Sec. 2, T-8-S, R-8-E	Pinal

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
Humble Oil & Ref. Co.	No	Dry Hole	Dry Hole	Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
July 27, 1972	10,179	None	None	None

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement
None - Dry Hole		8100 - 8100	55 sks
		4500 - 4600	55 sks
		1955 - 2055	75 sks
		0 - 20	10 sks

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
10-3/4"	*1,988'	None	1,988'	- -	Guide Shoe & Float Collar
	*Set at 2,005'				

Was well filled with mud-laden fluid, according to regulations?	Indicate deepest formation containing fresh water.
Yes	1,925' - 1,966'

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
William E. Housey	Eloy, Arizona	North - Sec. 35, T7S, R8E
Heirs of L. L. Page	San Francisco, California	West - Sec. 3, T8S, R8E

Humble is the Operator of the remainder of the Adjacent leases.

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Div. Drilling Operations Supt. of the Humble Oil & Refining Company (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

July 28, 1972
Date

H. G. Davidson
Signature

H. G. Davidson

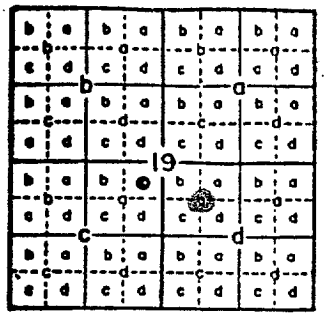
RECEIVED
AUG 07 1972
O & G CONS. COMM.

Permit No. 583

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record
File One Copy

Form No. 10

Section Location Example



Section 19caa

DRILL RECORD

HOLE DESIGNATION Humble State 14-1

T 3S R 11W

SEC 25 db (center).

20 miles NW of Sentinel

General File Reference: Yuma County General, Aa-25A.0.0

Total Depth: 2,653 ft.

Postmineral thickness:
2550 ~~2,588~~

Premineral bedrock:
Granite Gneiss

Source of Information:
Ariz. Oil & Gas Comm.

Drill Contractor:
Loffland Drilling Co

Company:
Humble Oil & Refining Co.

Date:
Spudded 7-31-72
Completed 8-10-72

Geologic Log:
Operators log.

0-322	Sand & gravel
322-1,333	Volcanics, red & brown.
1,333-2,325	Volcanics with quartz
2,325-2588	Volcanics & granite
2588-2653	Granite (gneiss).

Assays, Geochem:
None.

Core, cuttings on file:
Rock on file with OGC.

Drilling Problems, Depth to Water:

Other:
Collar Elevation 783 feet
Yuma County, Arizona
Other Logs. Gamma Ray - BHC Sonic, Induction, Comp-Sim Density, Neutron Porosity.

9-12-74

JDS

Extra

County Yuma

Area 20 mi. NW/of Sentine

Lease No. State (14)

Well Name HUMBLE OIL & REFINING CO. WELL NO. 1 STATE (14)

Location NW/SE Sec. 25 Twp 3S Range 11W Footage 1980' FSL - 1980 FEL

Elev 783' Gr 797' KB Spud Date 7-31-72 Completed Abandon P&A 8-11-72 Total Depth 2653'

Contractor Loffland Drilling Company

Drilled by Rotary X
Cable Tool

Casing Size	Depth	Cement
16"	42'	18 sx
10 3/4"	1290'	725 sx

Production Horizon

Initial Production

REMARKS Dry Hole

Elec Logs Induction -2 / Borehole - 2/ Comp. Formation Density-2
Neutron Porosity-2

Applic. to Plug X Plugging Record X Completion Report X

Sample Log Lith log
Sample Descript.
Sample Set #1723
Core Analysis
DSTs

Water well accepted by

Bond Co. & No. THE AMERICAN INSURANCE COMPANY - BOND NO. 5-10-11-58

Bond Am't $ 25,000 Cancelled Date Organization Report 9-19-69

Filing Receipt 2923 Dated 7-14-72 Well Book X Plat Book X

Loc. Plat X Dedication 80 acres

API No. 02-027-20005

Permit Number Date Issued 7-14-72

COMMENTS

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well [X] Work-Over [ ] Deepen [ ] Plug Back [ ] Same Reservoir [ ] Different Reservoir [ ] Oil [ ] Gas [ ] Dry [X]

DESCRIPTION OF WELL AND LEASE

Operator: Humble Oil & Refining Company	Address: P. O. Box 1600, Midland, Texas 79701
Federal, State or Indian Lease Number or name of lessor if fee lease: State (14) (State Lease No. 13414)	Well Number: 1 / Field & Reservoir: Stratigraphic Test Hole
Location: 1,980' FSL & 1,980' FEL	County: Yuma
Sec. TWP-Range or Block & Survey: Section 25, T-3-S, R-11-W	

Date spudded	Date total depth reached	Date completed, ready to produce	Elevation (DF, RKB, RT or Gr.) feet	Elevation of casing hd. flange feet
7-31-72	8-10-72	Dry Hole	783 GR	- -

Total depth	P.B.T.D.	Single, dual or triple completion?	If this is a dual or triple completion, furnish separate report for each completion.
2,653'	0'	Dry Hole	

Producing interval (s) for this completion	Rotary tools used (interval)	Cable tools used (interval)
Dry Hole	0 - 2,653'	- -

Was this well directionally drilled?	Was directional survey made?	Was copy of directional survey filed?	Date filed
No	No	No	- -

Type of electrical or other logs run (check logs filed with the commission)	Date filed
GR-BHC Sonic	8-16-72

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Conductor	20"	16"	65#	42'	18 sx	None
Surface	13-3/4"	10-3/4"	40.5#	1,306'	725 sx	None

TUBING RECORD

Size	Depth set	Packer set at
None in.	ft.	ft.

LINER RECORD

Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	None ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval
None		

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Am't. & kind of material used	Depth Interval
None	

INITIAL PRODUCTION

Date of first production	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:)
Dry Hole	

Date of test	Hrs. tested	Choke size	Oil prod. during test bbls.	Gas prod. during test MCF	Water prod. during test bbls.	Oil gravity ° API (Corr)

Tubing pressure	Casing pressure	Cal'ted rate of Production per 24 hrs.	Oil bbls.	Gas MCF	Water bbls.	Gas—oil ratio

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Proration Specialist of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date: September 11, 1972

Signature: D. L. Clemmer

D. L. Clemmer

RECEIVED SEP 13 1

Orig.: OGCC - State of Arizona
cc: Drilling Section
cc: Central File
D. L. Clemmer

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Well Completion or Recompletion Report and Well Log
File One Copy

DETAIL OF FORMATIONS PENETRATED

Formation	Top	Bottom	Description*
Sd. & Ground	0	322	
Volcanics	322	1,333	Rd and red brown volcanics
Volcanics & Quartz	1,333	1,890	Core No. 1 from 2,598' to 2,628', Rec. 30' of core.
Volcanics	1,890	2,325	
Vol. ¢ Granite	2,325	2,588	
Granite	2,588	2,653	
			Dry Hole - Plugged and Abandoned on August 11, 1972.

Pencil notes on log

@ 40 ft. Gravel & boulders.

@ 473 Rd and red brown volcanics (top of vole.)

@ 2318 gray and green volcanics
white & gray gneiss

@ 2550 (gneiss)
gray and green volcanics
some red brown.

* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

INSTRUCTIONS

Attach drillers log or other acceptable log of well.

"DRY HOLE"

PLUGGING RECORD

Operator	Address
Humble Oil & Refining Company	P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number, or lessor's name if fee lease.	Well No.	Field & Reservoir
State (14)	1	Wildcat - Stratigraphic Test

Location of Well	Sec-Twp-Rge or Block & Survey	County
1,980' FSL & 1,980' FEL	25-3S-11W	Yuma

Application to drill this well was filed in name of	Has this well ever produced oil or gas	Character of well at completion (initial production): Oil (bbls/day)	Gas (MCF/day)	Dry?
Humble Oil & Refining Co.	No	Dry Hole	Dry Hole	Yes

Date plugged:	Total depth	Amount well producing when plugged: Oil (bbls/day)	Gas (MCF/day)	Water (bbls/day)
August 11, 1972	2,653'	None	None	None

Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation	Size, kind & depth of plugs used Indicate zones squeeze cemented, giving amount cement
None - Dry Hole			

CASING RECORD

Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
16"	42'	None	42'	-	None
10-3/4"	1,290'	None	1,290'	-	None

Was well filled with mud-laden fluid, according to regulations?	Indicate deepest formation containing fresh water.
Yes	500'

NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE

Name	Address	Direction from this well:
U. S. A.	P. O. Drawer 1857, Roswell, N. M.	North and South
State of Arizona	4515 N. 7th Ave., Phoenix, Arizona	All

In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.

Use reverse side for additional detail.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Div. Drilling Operations Supt. of the Humble Oil & Refining Company (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

August 16, 1972
Date

H. G. Davidson
Signature

RECEIVED

AUG 17 1972

O & G CONS. COMM.

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Plugging Record

PLICATION TO ABANDON AND P

FIELD Wildcat - Core Test

OPERATOR Humble Oil & Refining Company ADDRESS P. O. Box 1600, Midland, Texas 79701

Federal, State, or Indian Lease Number
or Lessor's Name if Fee Lease State (14) WELL NO. 1

SURVEY T-3-S, R-11-W SECTION 25 COUNTY Yuma

LOCATION 1980' FS & EL

TYPE OF WELL Dry Hole (Oil, Gas or Dry Hole) TOTAL DEPTH 2,600'

ALLOWABLE (If Assigned)

LAST PRODUCTION TEST OIL (Bbls.) WATER (Bbls.)

GAS (MCF) DATE OF TEST

PRODUCING HORIZON Dry Hole PRODUCING FROM TO

1. COMPLETE CASING RECORD

16" - 65# Casing (18') Cemented w/18 sx Neat - Cmt. Circulated

10-3/4" - 40.5# Casing (1,290') Set @ 1,306' Cemented w/475 sx 8% gel and 250 sx Neat - Cmt. Circulated

2. FULL DETAILS OF PROPOSED PLAN OF WORK

Plug and abandon well as follows:

Plug #1 1,350' to 1,250' w/ 75 sx - Class B Cmt.

Plug #2 20' to 0' w/ 10 sx - Class B Cmt.

Fill balance of hole w/ 8.8#/gal. mud.

Verbal approval obtained 8-8-72.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS 8-9-72

NAME OF PERSON DOING WORK Humble Oil & Refining Co. ADDRESS P. O. Box 1600, Midland TX 79701

CORRESPONDENCE SHOULD BE SENT TO Humble Oil & Refining Company
Name

Orig. & cc: OGCC - State of Arizona
cc: Drilling Section
cc: Central File

Division Drilling Superintendent
Title

P. O. Box 1600, Midland, Texas 79701
Address

August 8, 1972
Date

Date Approved

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By:

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Abandon and Plug
File Two Copies

Form No. 9

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