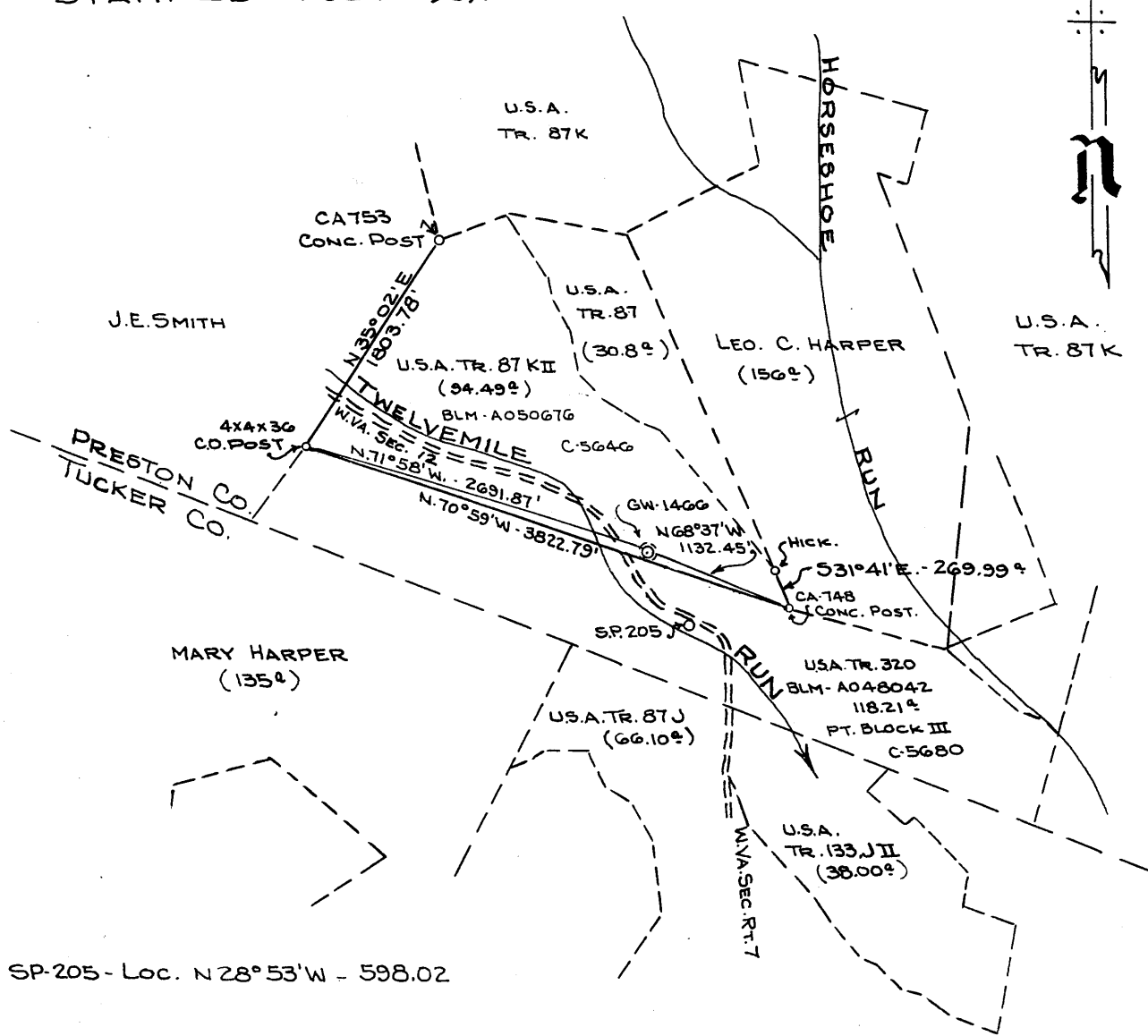


4,300' South of 39° 15'
20,750' West of 79° 30' + Topo. Loc.

NOTE: ELEVATION TAKEN FROM U.S.G.S. "1874" ELEVATION 1873.6' ABOUT 4 MILES NE LEADMINE-INTERSECTION SEC. W.VA. RTS. 7 AND 7/6 - SHAFER, W.VA. - STANDARD CONCRETE POST-STAMPED 77JEA-1957.



THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS PRESCRIBED BY THE OIL AND GAS DIVISION OF THE DEPARTMENT OF MINES.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY PARAGRAPH 6 OF THE RULES AND REGULATIONS OF THE OIL AND GAS SECTION OF THE MINING LAWS OF WEST VIRGINIA.

New Location
Drill Deeper
Abandonment

J. J. ...

Company CITIES SERVICE OIL COMPANY
COLUMBIAN FUEL CORPORATION
 Address Box 873 CHARLESTON, W.VA.
 Farm UNITED STATES OF AMERICA
 Tract 87 KII Acres 34.49 Lease No. BLM-A0506TG
 Well (Farm) No. Q-1 Serial No. GW-1466
 Elevation (Spirit Level) 2172.12
 Quadrangle PARSONS-1 5081 W-398
 County PRESTON District UNION
 Engineer J. J. ...
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-16-63
 Date 11 JULY 63 Scale 1" = 1320'

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION
CHARLESTON

WELL LOCATION MAP
FILE NO. PRES-119-P

+ Denotes location of well on United States Topographic Maps, scale 1 to 62500 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on APR 15 1965 of original tracing.

Latitude 39° 15'

4,300' SOUTH OF 39° 15'
20,750' WEST OF 79° 30'

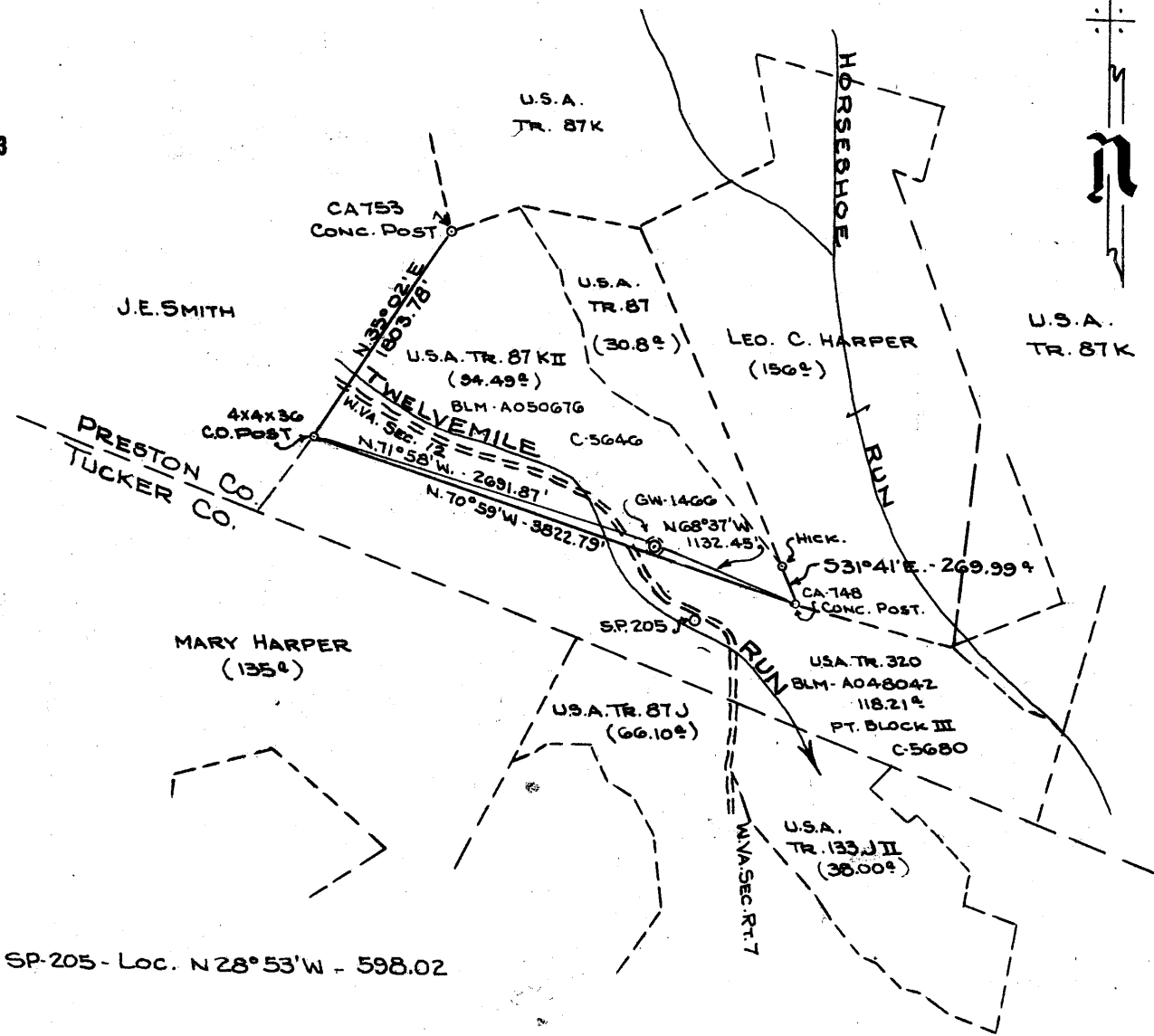


TOPO. LOC.

394-0

Longitude 79° 30'

NOTE: ELEVATION TAKEN FROM U.S.G.S. "1874" ELEVATION 1873.6' ABOUT 4 MILES NE LEADMINE-INTERSECTION SEC. W.VA. RTS. 7 AND 7/6 - SHAFER, W.VA. - STANDARD CONCRETE POST-STAMPED 77JEA-1957.



THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS PRESCRIBED BY THE OIL AND GAS DIVISION OF THE DEPARTMENT OF MINES.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS MAP IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY PARAGRAPH 6 OF THE RULES AND REGULATIONS OF THE OIL AND GAS SECTION OF THE MINING LAWS OF WEST VIRGINIA.

1 NW - (G-13)

Wendell S. ... 25-A

0.81 x 4 S
3.98 W
4.00
New Location
Drill Deeper
Abandonment

Company COLUMBIAN FUEL CORPORATION
 Address Box 873 CHARLESTON, W.VA.
 Farm UNITED STATES OF AMERICA
 Tract 87 KII Acres 34.49 Lease No. BLM-A050676
 Well (Farm) No. Q-1 Serial No. GW-1466
 Elevation (Spirit Level) 2172.12
 Quadrangle PARSONS-1 NE 5081 W-398
 County PRESTON District UNION
 Engineer J. ...
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-16-63
 Date 11 JULY 63 Scale 1" = 1320'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. PRES-119

+ Denotes location of well on United States Topographic Maps, scale 1 to 62500 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

6-6 325

Samples - 1480 - 1590' (along) 19" - 4" AD' 220' (along) Deep Well 1480 - 3900' 3900 - 1590' 1907



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 12

Rotary
Spudder
Cable Tools
Storage

Quadrangle Parsons 1 SW

WELL RECORD

Permit No. Pres-119

Oil or Gas Well Gas
(KIND)

Company Cities Service Oil Company
Address Box 873, Charleston 23, W. Va.
Farm United States of America Acres 640
Location (waters) Twenty Mile Run
Well No. Q-1, GW-1466 Elev 2172.12'
District Union County Preston
Bureau of Land Management, et al
The surface of tract is owned in fee by Management, et al
Interior Building Address Washington, D. C.
Mineral rights are owned by same
(for further add, contact Cities Service Oil Co)
Address

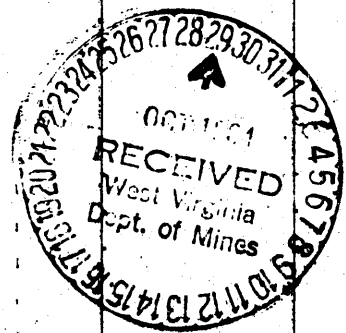
Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
20" 94#	73'	73'	<u>none</u>
1 1/8" 48#	1209'	1209'	Size of
5/8" 36#	4985'	4985'	Depth set
7" 23#	7787'	7787'	Perf. top
5 3/16			Perf. bottom
3			Perf. top
2 3/8" 4.7#	7259'	7259'	Perf. bottom
Liners Used			Perf. top
			Perf. bottom

Drilling commenced 10-5-63
Drilling completed 3-17-64
Date Shot not shot From _____ To _____
With _____
Open Flow _____ /10ths Water in _____ Inch
_____ /10ths Merc. in _____ Inch
Volume _____ Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED not acidized
WELL FRACTURED not fractured

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
see reverse side
COAL WAS ENCOUNTERED AT none FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES
_____ FEET _____ INCHES FEET _____ INCHES

RESULT AFTER TREATMENT (Perforating) 108/10 M. 7" 23# = 16,300 MCF (Tuscarora)
ROCK PRESSURE AFTER TREATMENT 160 hrs. deadwt. 2620# B.H.; 2600# tubing
Fresh Water 140' Feet Salt Water 4585-90' Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil			0	25			
Shale and Slate			25	70			
Lime			70	130	F. water	140'	show
Shale			150	185			
Sandy Lime			185	245			
Lime and Shale			245	255			
Sandy Lime			255	1120			
Sandy Shale			1120	1210			
Sandy Lime			1210	1440			
Lime			1440	1715			
Lime and Shale Shells			1715	2020			
Sand			2020	2050			
Shale and Shells			2050	2165			
Sandy Lime			2165	2205			
Lime			2205	2232			
Lime and Shale			2232	2515			
Lime			2515	2880			
Lime and Shale			2880	3900			
Shale			3900	4550			
Chert			4550	4739	S. water	4585-90'	
Sand - Orisk			4739	4906	4924' Rotary = 4921-1/2'	Sch. Meas.	
Lime and Sand			4906	5204			
Lime and Shale			5204	5465			
Sandy Lime			5465	5550			
Sand and Shale			5550	5625			
Shale			5625	5658			
Sand and Shale			5658	5870			



4739
2172
256'

Formation	Color	Hard or Soft	Top 12	Bottom	Oil, Gas or Water	Depth Found	Remarks
Lime			5870	5940			
Sandy Lime			5940	6218			
Lime and Shale			6218	6696			
Shale			6696	6908			
Sandy Lime			6908	7005			
Sand			7005	7717			7717'DLM=7715'Schl. Meas.
Shale and Siltstone			7717	7830			Schlumberger showed gas:
Red Shale			7830	7910			7058' show
Shale			7910	7980			7083' gaug. 16/10 W. 2' =169M
Sand			7980	7997			7118' incr. to 44/10 W. 7" = 2,832M
Red Shale			7997	8003			7123' incr. to 83/10 W. 7" =3,889M
Sandy Lime			8003	8007			7146' incr. to 65/10 M. 7" =12,701M
Red Shale			8007	8030			then to 70/10 M. 7" =13,179M
Shale and Sandy Lime			8030	8085			
Shale			8085	8350			
Sand and Shale			8350	8445			
Sand and Lime			8445	8525			
Sand and Shale			8525	8715			
Sand			8715	8860			
Sand and Shale			8860	9190			
Sand			9190	9207			
Lime and Sand			9207	9320			
Sand			9320	9345			
Sand and Lime			9345	9565			
Lime			9565	9635			
Lime and Sand			9635	9925'DLM=			MARTINSBURG
				9910'Schlumberger Meas.			
				9910'Schlumberger Meas.			
Total depth-----				7450'			
Plugged back depth-----							
Samples show:							
Tuscarora			7005	7464'			
Casing Record							
10-8-63	Ran 20" at 84'-cemented with 160 bags.						
10-17-63	Ran 13-3/8" at 1212'DLM-cemented with 200 bags.						
11-8-63	Ran 9-5/8" at 4924'Rotary=4921-1/2' Schl. Meas. Baker Whirler Guide Shoe on bottom. Differential fill up collar in top of bottom joint. 7 Centralizers spaced every 3rd joint from bottom. Cemented with 300 sacks.						
2-17-64	Ran 7" at 7715'Schl. Meas. Differential shoe on bottom-differential fill up collar on top of first joint. Centralizers each 100' from bottom to 6900'. Metal petal basket at 7100' and 6495'. Stage Collar at 6005'. Centralizers 6,000', 5121', 5,020', 4920', 4820' and 4720'. Cemented bottom section 7715-6005' with 105 sacks Salt Water Cement-followed with 1155 gallons Cement.						
Additional Data:							
11-8-63	- Depth 4921-1/2' Schl. Measurement. Logged well (Chert and Oriskany)Ran Gamma Ray, Gamma Gamma, Induction and Caliper Logs.						
2-14-64	- Depth 7715' Schl. Meas. Logged Tuscarora. Ran Gamma Ray, Caliper, Gamma Gamma, Induction and Dipmeter.						
3-17-64	- T. D. 9910' Schl. Meas. Ran Gamma Ray, Caliper, Gamma Gamma and Induction Log from 7715' (bottom of pipe) to T. D.						
Filled hole with thick Aquagel from T. D. to 7,650'. Set Baker Bridge plug 7,650'-set cement plug 7,650'-7,450' - 40 bags (Plugged back depth 7,450')							
Started coring well 1-17-64 - cored from 7,164' to 7,473' - completed 2-7-64.							
3-22-64-Perforated 7115-7123'; 7142-7147'; 7151-7156'; 7160-7165' 3 shots/foot-each interval had jets turned so would cover 360° - 119 shots total.							

Date April 9, 1964

APPROVED Cities Service Oil Company, Owner

By W. S. Moore, Division Sup't
(Title)

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION

RECEIVED
JUL 31 1985

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPPLICATE. ONE COPY MAILED TO THE DEPARTMENT. ONE COPY TO BE RETAINED BY THE WELL OPERATOR AND THE THIRD COPY (AND EXTRA COPIES IF REQUIRED) SHOULD BE MAILED TO EACH COAL OPERATOR AT THEIR RESPECTIVE ADDRESSES.

None COAL OPERATOR OR OWNER	Cities Service Oil and Gas Corporation NAME OF WELL OPERATOR
ADDRESS	P. O. Box 873, Charleston, WV 25323 COMPLETE ADDRESS
None COAL OPERATOR OR OWNER	July 19 19 85 WELL AND LOCATION
ADDRESS	Union District
LEASE OR PROPERTY OWNER	Preston County
ADDRESS	Well No. U.S.A. "Q" #1, GW-1466
	United States of America Farm

STATE INSPECTOR SUPERVISING PLUGGING Donald Ellis, 2604 Crab Apple Lane, Fairmont, WV 26554

AFFIDAVIT

STATE OF WEST VIRGINIA, }
County of Preston } ss:

Walter C. Arbogast and Blaine Minney
being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by Tri-State Well Service, Inc., well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 4th day of July, 19 85, and that the well was plugged and filled in the following manner:

SAND OR ZONE RECORD FORMATION	FILLING MATERIAL	PLUGS USED SIZE & KIND	CASING	
			CSG PULLED	CSG LEFT IN
7242'-7017'	Gelled Hole w/6% gel	40 sxs Thix cmt		
1742'-1642' 218'-0'	7" casing		1730'	5988'
	Set CIBP at 225'	40 sxs reg cmt		
	9-5/8" casing	110 sxs reg cmt		
	13-3/8" casing		0	4985'
	2-3/8" tubing		0	1209'
			7211'	0'
COAL SEAMS				
(NAME)			<div style="text-align: right; font-size: 1.2em; font-weight: bold;">8/12/85</div> DESCRIPTION OF MONUMENT Welded cap 3' below GL with SS plate inscribed with CSOGC, well name, GW#, API#, date plugged and location.	
(NAME)				
(NAME)				
(NAME)				

and that the work of plugging and filling said well was completed on the 8th day of July, 19 85.

And further deponents saith not.

Sworn to and subscribed before me this 8 day of July, 19 85.

My commission expires:

June 11, 1989

Walter C. Arbogast
Blaine Minney
Donald J. Bay
Commissioner Notary Public.

Permit No. 077-0119-P



CITIES SERVICE RESEARCH AND DEVELOPMENT COMPANY

(INCORPORATED)

PRODUCTION & EXPLORATION RESEARCH LABORATORIES
920 EAST THIRD STREET
P. O. BOX 558
TULSA 1, OKLAHOMA

March 6, 1954

Mr. R. L. Bird, Jr.
Cities Service Oil Company
P. O. Box 673
Charleston, West Virginia

Dear Mr. Bird:

Enclosed are copies of our core laboratory's report on cores from the GW-1406, USA 0-1 [REDACTED] as well as comments by Ed Riederman about the nature of the rock based on a brief examination of petrographic thin sections. The anomalously high permeability values obtained for samples P-2 and P-5V, compared with the duplicate samples for the same depths may be due to minute cracks having formed during drilling the plugs.

Inasmuch as Mr. R. V. Maul is in charge of our core laboratory, please send your future requests for core analysis to him. I will be delighted to handle requests of a geological nature.

Very truly yours,

I. Leo Brain

TLB/pah

Enclosures

cc: P. E. Barahart w/encl.
A. V. Hargis w/encl.

MEMORANDUM

TO: Dr. T. L. Brein

March 6, 1964

RE: General comments on thin sections from ~~the~~ West Virginia cores.

Thin sections were obtained on a foot-by-foot basis from the core materials of the GM-1466, U. S. of America Q-1 ~~_____~~. The following descriptions are very general and can be augmented, upon request.

GM-1466, U. S. of America Q-1

Footage	Description
7164'	Well cemented, almost pure orthoquartzite - very little pore space.
7165'	Same as above, some thin finer-grained zones may represent healed fractures.
7166'	Orthoquartzite with alternating layers of fine and coarse grained quartz. Minor amounts of clay are present around some of the quartz grains.
7189'	Well cemented orthoquartzite; a few large quartz grains; minor amounts of clay around some of the quartz grains.
7209'	Orthoquartzite with alternating thin zones which are well cemented and those which have relatively little quartz cement.
7210 1/2'	Orthoquartzite with numerous bubble trains cutting across several grains at a time, indicating considerable structural stress. Alternating layers of relatively coarse and relatively fine grains occur in the scale of the thin section.
7211'	Same as above only parallel bubble trains cutting across grains are not numerous.
7225'	Very fine-grained sand and silt in clay matrix with minor amounts of carbonate.
7242'	Orthoquartzite with thin alternating coarse-grained and fine-grained quartz layers. Appears to have more open pores than other specimens. Minor amounts of clay minerals are present.

A second thin section from this footage reveals a coarse-grained layer of orthoquartzite wherein the largest grains are metaquartzite fragments.

Footage	Description
7354'	Well cemented medium-grained orthoquartzite with occasional large grains. One or two spots within the sand are not well cemented and appear to be highly porous.
7355'	Contains well-cemented coarse-grained orthoquartzite and finer-grained orthoquartzite with minor amounts of clay. Some fracturing visible on the scale of the thin section.
7362 1/2'	Medium to fine grained, well cemented orthoquartzite.
7365'	Same as above.
7364'	Same as above with minor amounts of chert.
7367'	Coarser grained orthoquartzite.
7368	Alternating layers of fine grained and medium grained orthoquartzite.

M E M O R A N I U M

To: Mr. R. L. Bird, Jr.

March 6, 1964

Re: Core Analysis on GW-1466, USA Q-1 [REDACTED] Parsons Area
No. 250 (blk C), West Virginia

As per your request of February 17, 1964, porosity, permeability, (both horizontal and vertical) grain density, bulk density, and per cent carbonate have been run on selected core samples from the GW-1466, USA Q-1 [REDACTED]. Results of these tests are shown on the table below:

<u>Test Data</u>						
GW-1466, USA Q-1						
<u>Sample Number</u>	<u>Depth, Ft.</u>	<u>Perm., md.</u>	<u>Por., %</u>	<u>Carbonate, %</u>	<u>Bulk Density, gm/cc</u>	<u>Grain Density, gm/cc</u>
P-1 <i>Horizontal</i>	7164	0.00	1.1	0.39	2.61	2.64
P-1V <i>Vertical</i>	7164	0.00	1.0		2.61	2.64
P-2	7188	10.70	8.9	0.34	2.41	2.64
P-2V	7188	1.13	8.7		2.42	2.65
P-3	7209	0.00	2.3	0.06	2.57	2.64
P-3V	7209	0.00	2.2		2.58	2.64
P-4	7243	0.32	5.8	0.32	2.49	2.64
P-4V	7243	0.54	4.9		2.51	2.64
P-5	7254	1.52	2.6	0.19	2.57	2.64
P-5V	7254	12.20	2.2		2.58	2.64
P-6	7302	0.00	3.9	0.35	2.54	2.64
P-6V	7302	0.00	3.9		2.54	2.64
P-7	7327	0.00	5.5	0.35	2.50	2.64
P-7V	7327	0.00	5.6		2.50	2.64
P-8	7425	0.00	1.0	2.00	2.64	2.67
P-8V	7425	0.00	1.3		2.64	2.69

M E M O R A N D U M

TO: Dr. T. Leo Broin

March 4, 1964

RE: Grain densities of selected samples from C.S.O. G.W.-1466, United States of America, Q-1 West Virginia.

The amount of sample for each footage was too small for the standard core laboratory measurement of grain density. In order to handle this problem, thin sections were made and mineralogical counts of 100 points per section were obtained. The following grain densities are based upon the sum of the densities for the individual minerals weighted according to their abundance.

It should be noted that most of the samples are fine-grained orthoquartzite fragments which are well cemented with quartz. The average grain density, therefore, does not differ appreciably from that of pure quartz.

<u>Bag Footage</u>	<u>Schlumberger Footage</u>	<u>Grain Density</u>
7010-7015'	7008-7013'	2.657
7025-7030'	7023-7028'	2.656
7030-7035'	7028-7033'	2.656
7080-7085'	7081-7082'	2.658
7085-7090'	7082-7088'	2.657
7090-7095'	7088-7093'	2.656
7120-7125'	7118-7123'	2.655
7135-7140'	7133-7138'	2.662
7140-7145'	7138-7143'	2.656


E. W. Biederman, Jr.

EWB/pah

EW

COLUMBIAN CARBON COMPANY

Preston 119

Monroe, Louisiana

Serial No. 32818

August 13, 1964

Gas sample from GW-1466, U.S. of America Q-1, Preston County, West Virginia, Parsons No. 250 Operating District.

Gas Chromatography (x)

<u>Compound</u>	<u>Volume % or Mol %</u>	<u>G. P. M.</u>	
Nitrogen	16.73		Specific Gravity (Dry) Calc. <u>.636</u>
Methane	22.26		
Ethane	1.62		Calculated Heating Value @ 60 Deg. F and 30" Hg.
Propane	0.22		<u>148.9 B. T. U./cu. ft.</u> (Saturated)
Iso-butane	0.06		
N-Butane	0.06		
Di Iso Propyl	0.02	.008	Gasoline Content (35% Butanes- 65% Pentanes+)
Heptane and Heavier	0.03	.014	<u>.036</u> G. P. M.

ml