

FILE NOTATIONS

Entered in NID File
Entered on S R Sheet
Location Map Pinned
Card Indexed
IWR for State or Fee Land

Checked by Chief
Copy NID to Field Office
Approval Letter
Disapproval Letter

COMPLETION DATA:

Date Well Completed 9-6-58
GW..... WW..... FA.....
GW..... GS..... PA.....

Location Inspected _____
Bond released _____
State or Fee Land _____

LOGS FILED

Driller's Log 10-31-58
Electric Logs (No.) 4

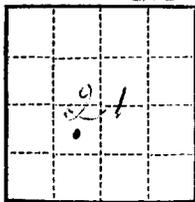
E I-E B-I GR _____ GR-N _____ Micro

Lat _____ Mi-1 _____ Sonic _____ Others Radiation Log

- Scout Report sent out
- Noted in the NID File
- Location map pinned
- Approval or Disapproval Letter
- Date Completed, P. & A. or operations suspended
- Pin changed on location map
- Affidavit and record of A & P
- Water Shut-Off Test
- Gas-Oil Ratio Test
- Well Log Filed

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9-6-58



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Utah
Lease No. W-013811
Unit Cottonwood Wash
INITIAL TEST WELL

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 11, 1958

Well No. Unit 1 is located 1580 ft. from SW line and 2130 ft. from SE line of sec. 21

NE 1/4, Sec. 21 T 11 S. R. 21E. S.L.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

COTTONWOOD WASH UNIT MONTAN COUNTY Utah
(Field) (County or Subdivision) (State or Territory)
(WILDCAT)

The elevation of the derrick floor above sea level is 5795 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

1. Drill 14-1/2" - 15" hole to 300'. Cement 10-3/4", 32.75# casing @ 300', cement to reach surface.
2. Drill 9" hole to approximately 5000'.
3. Run Electric log, Microlog and Gamma-ray-Neutron Log.
4. Well will be completed (a) with 7", 23# and 25#, J-55 casing, 2-7/8 tubing, or (b) if well is non-commercial will be abandoned, all zones requiring cement plugs will be properly protected.

OBJECTIVE: Wesatch.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company GREAT LAKES NATURAL GAS CORPORATION

Address 417 South Hill Street
Los Angeles 13, California

By Wm. H. Elliott
Wm. H. Elliott
Title Manager, Lands & Exploration

GREAT LAKES NATURAL GAS CORPORATION
417 SOUTH FINE ST - SUITE 465
LOS ANGELES 13, CALIFORNIA

March 12, 1958

C
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P
Y

U.S. Department of the Interior
Biological Survey
Salt Lake City - Federal Building

ATTENTION: District Engineer

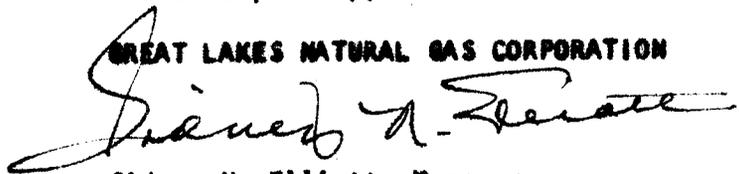
Gentlemen:

We are enclosing herewith in triplicate notice of intention to drill Unit No. 1 well, being initial test well on Cottonwood Wash Unit.

Nationwide bond of Great Lakes Natural Gas Corporation is on file with Bureau of Land Management, Salt Lake City, Utah.

Yours very truly,

GREAT LAKES NATURAL GAS CORPORATION



Sidney N. Elliott, Manager
Lands & Exploration

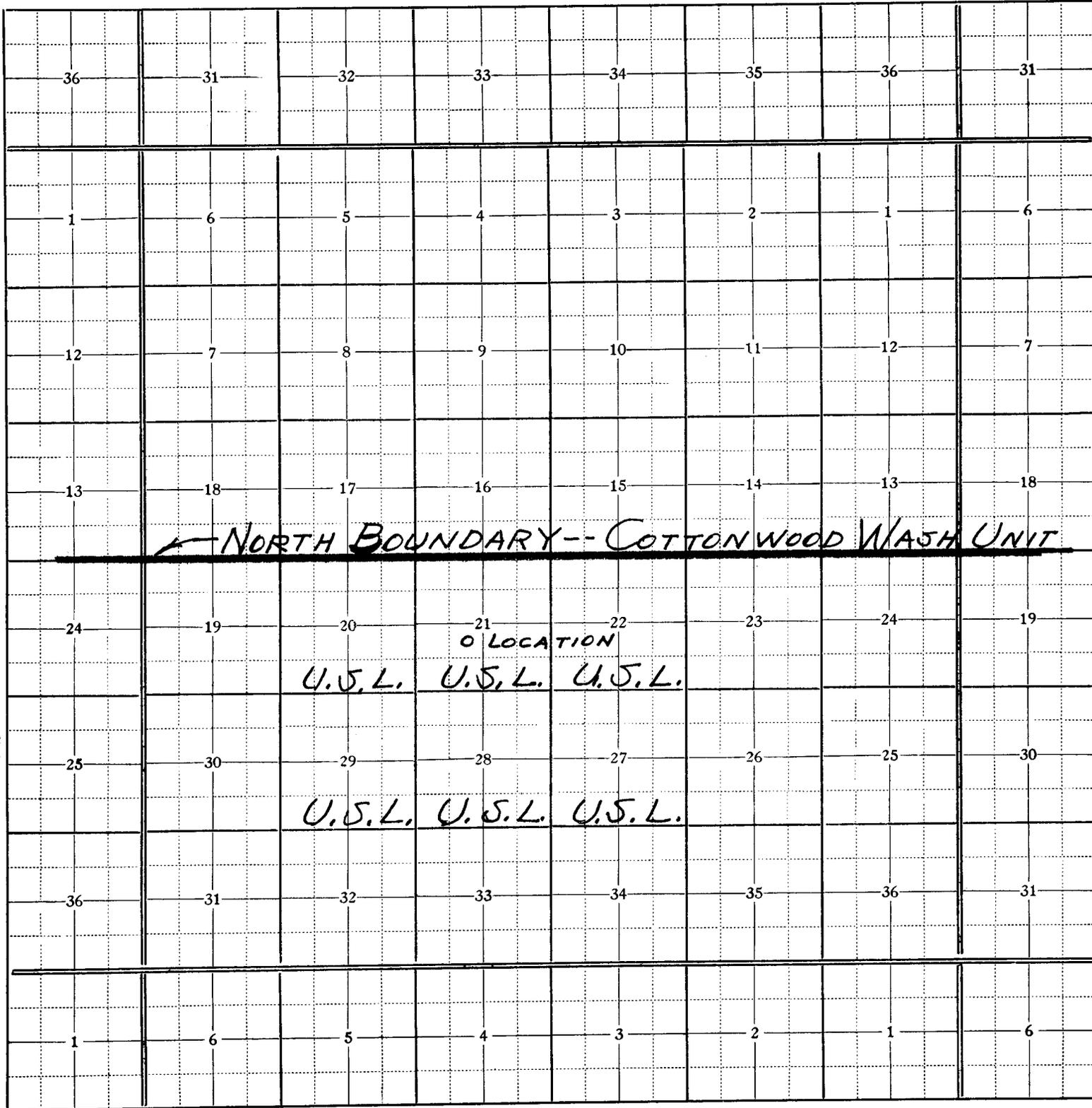
SNE:cb
Encl.

P.S. Also enclosed in triplicate is designation of Operator, Form 9-1123, dated February 28, 1958, executed by Texas Natural Gasoline Corporation as Lessee and/or holder of oil and gas lease No. U.S.A.-Utah 013811, designating Great Lakes Natural Gas Corporation as Operator thereunder, with respect to all of Section 21, T. 11S., R. 21E., S.L.M., Uintah County, Utah.

*c/c to O & G Com. Com.
State of Utah
Salt Lake City
Utah*

8287 T 1228

Township 11 S Range 21 E. S.L.M. Uintah County, State of UTAH



GREAT LAKES NATURAL GAS CORPORATION

MADISON 6-9384
417 SOUTH HILL STREET
LOS ANGELES 13, CALIFORNIA

March 12, 1958

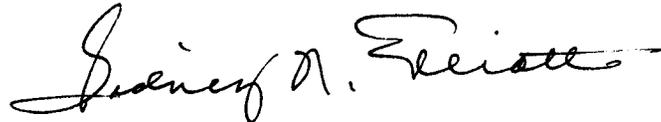
Oil & Gas Conservation Commission
State Capitol Building
Salt Lake City 14, Utah

Gentlemen:

Enclosed herewith are copies of notices to U.S.G.S., to which we have attached location plats, covering intention to drill Unit No. 1 well, being initial test well on the Cottonwood Wash Unit.

Very truly Yours,

GREAT LAKES NATURAL GAS CORPORATION



Sidney N. Elliott, Manager
Lands & Exploration

SNE:cb
Encl.

March 17, 1958

Great Lakes Natural Gas Corporation
417 South Hill Street
Los Angeles 13, California

Attention: Sidney N. Elliot, Manager
Lands and Exploration

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Cottonwood Wash Unit 1, which is to be located 1580 feet from the south line and 2130 feet from the west line of Section 21, Township 11 South, Range 21 East, SEEM, Uintah County, Utah.

The proposed location of this well does not comply with Rule C-3(b), General Rules and Regulations and Rules of Practice and Procedure, Oil and Gas Conservation Commission, State of Utah; nor has information been furnished for an unorthodox location as required by Rule C-3(b) of said rules and regulations.

Before approval can be given for drilling this well, it will be necessary for you to file a new notice of intention to drill in compliance with Rule C-3(b), or if an unorthodox location is necessary, a request for such spacing must be made as required by Rule C-3(c); also, a plat must be submitted as required by Rule C-4.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FRIGHT
SECRETARY

CBF:en

cc: Don Russell
USGS, FED. BLDG.
Salt Lake City, Utah

GREAT LAKES NATURAL GAS CORPORATION

MADISON 6-9384
417 SOUTH HILL STREET
LOS ANGELES 13, CALIFORNIA

March 20, 1958

The State of Utah
Oil & Gas Conservation Commission
Salt Lake City 14, Utah

ATTENTION: Mr. Cleon B. Feight, Secretary

RE: Unit No. 1, Initial Test Well
Cottonwood Wash Unit
Section 21, T. 11 S., R. 21E., S.L.M.
Uintah County, Utah

Gentlemen:

This is with reference to your letter dated March 17, 1958 concerning the subject proposed well in which you make several comments with respect to the location thereof.

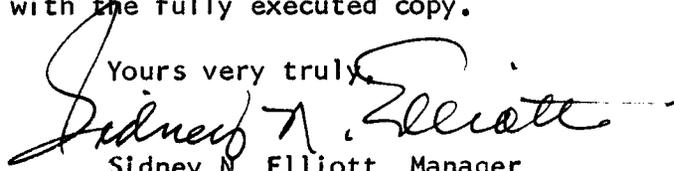
In referring to the items you point out, we would like to make inquiry as to whether or not Rule C-3(b) would apply in this instance since the proposed well is located within a unit agreement, and all landowners, overriding royalties and working interest owners within the section and adjacent sections to the proposed well location have subscribed to the unit agreement. We therefore inquire if Rule A-3 is applicable.

With respect to Rule C-3(c) relative to the unorthodox location of the proposed well, the location is necessitated by reason of the condition of the topography and terrain. The ownership of the oil and gas lease covering the section in which the proposed well is located, as well as adjacent sections to the East, West and South, is identical. Therefore, in view of this, is Rule C-3(c) excepted by Rule A-3?

Regarding Rule C-4, we enclose in duplicate revised plats showing location of the proposed well and adjacent sections, together with ownerships of leasehold interests.

Please be advised that the Cottonwood Wash Unit Agreement has been approved by the State of Utah, and we should receive approval by the Director of the U.S.G.S. not later than April 10, 1958. We will at that time furnish the Commission with the fully executed copy.

Yours very truly,


Sidney N. Elliott, Manager
Lands & Exploration

SNE:cb

Township 11 South Range 21 East S.L.M. Uintah County, State of Utah

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
 NORTH BOUNDARY COTTONWOOD WASH UNIT							
24	19	U S L 013812 <small>20</small>	U S L 013811 <small>21</small>	U S L 013810 <small>22</small>	23	24	19
9 Unit Well LOCATION TEXAS NATURAL GASOLINE CORP. AND GREAT LAKES NATURAL GAS CORP. LESSEES							
25	30	U S L 013812 <small>29</small>	U S L 013811 <small>28</small>	U S L 013810 <small>27</small>	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

March 24, 1958

Great Lakes Natural Gas Corporation
417 South Hill Street
Los Angeles 13, California

Attention: Sidney N. Elliott, Manager
Lands & Exploration

Re: Well No. Cottonwood Wash Unit 1,
NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 21, Township 11
South, Range 21 East, S1EM,
Uintah County, Utah

Gentlemen:

With reference to your letter of March 20, 1958, please be advised that approval to drill the above mentioned well is hereby granted under Rule C-3(e), of our rules and regulations.

Rule A-3 does not become effective until after the unit agreement has been approved by the U. S. Geological Survey, and a copy of said agreement filed with this office.

Incidentally, a fully executed copy need not be filed.

If you desire to drill another well on an unorthodox location within the proposed Cottonwood Wash Unit Area prior to its approval by the U.S.G.S., it will be necessary for you to give more detailed explanation of the topographical reasons as to why the unorthodox location is necessary, illustrating the same by contour lines on a map or plat.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

CLEON B. FREIGHT
SECRETARY

CBF:en

cc: Don Russell
USGS, Federal Bldg.
Salt Lake City, Utah

GREAT LAKES NATURAL GAS CORPORATION
400 NORTH WASHINGTON STREET, SUITE 405
LOS ANGELES, CALIFORNIA

April 16, 1958

Texas Natural Gasoline Corporation
800 Enterprise Building
522 Boston Street
Tulsa, Oklahoma - Attention: W. H. Eysen

O. H. Calhoun
3408 Via Sports
Newport Beach, California

Emmett E. Schleck
Box 523
Casper, Wyoming

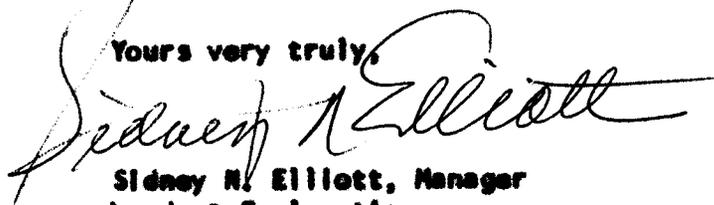
Gentlemen:

Enclosed are:

- 1) Photocopies of survey of location for proposed Cottonwood Wash Unit No. 1 well in Section 21, Township 11 S., Range 21E., S.L.B.M., Uintah County, Utah, as made by D. T. Ross, licensed surveyor.
- 2) Photocopy of approved notice of intention to drill, etc.
- 3) Photocopy of State of Utah Letter dated March 24, 1958, approving notice of intention to drill.

Additional copies of reports and/or information will be forwarded to you when and as received.

Yours very truly,



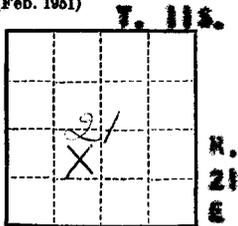
Sidney N. Elliott, Manager
Lands & Exploration

SNE:cb

CCS: United States Geological Survey
457 Federal Bldg., Salt Lake City, Utah
Atten: D. F. Russell, District Engineer, & 3 copies of Ross Survey.

The State of Utah, Oil & Gas Conservation Commission
Salt Lake City 14, Utah - Attention: Mr. Cleon B. Feight, Secy.
and 1 copy of Ross Survey.

C
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P
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(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City
Lease No. Utah 015811
Unit Cottonwood Wash
Unit Well #1

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	

Summary of Operations
Period 5/2/58 to 5/16/58

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 19, 1958

Well No. Unit #1 is located _____ ft. from $\begin{Bmatrix} N \\ S \end{Bmatrix}$ line and _____ ft. from $\begin{Bmatrix} E \\ W \end{Bmatrix}$ line of sec. 21

NE 1/4, Sec 21 (Section) _____ (Town) _____ (Range) _____ (Meridian)
Wildcat (Field) _____ (County or Subdivision) _____ (State Territory)

The elevation of the derrick floor above sea level is _____ ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

- 5/2/58 - Spudded.
- 5/2/58 to
- 5/4/58 - Drilled and reamed 17 1/2" hole to 254'. Set 13 3/8" surface casing 20' with 185 sacks of cement
- 5/5/58 to
- 5/16/58 - Drilled 9' to 3290'
- Deviation from interval - 3° at 2108'
- 1 3/4° at 2650'
- 1° at 2700'
- 1 1/4° at 2870'
- 1 1/2° at 3000'
- 1 1/4° at 3090'

Continue Drilling

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

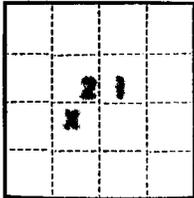
Company GREAT LAKES NATURAL GAS CORPORATION
Address 417 South Hill Street - Suite 465
Los Angeles 13, California

Original signed
Sidney N. Elliott

By _____

Title Sidney N. Elliott,

Mgr., Lands & Exploration



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **Salt Lake City Utah**
Lease No. **Utah - 013011**
Unit **Cottonwood Wash**
Unit Well #1

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		Summary of operations 5/16/58 -	
		5/23/58	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 26, 1958

Well No. 1 Unit is located 1580 ft. from S line and 2130 ft. from W line of sec. 21

NE 4 SW 4 SEC 21 T. 11 S. R. 21 E. S. 4 M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Cottonwood Wash (Initial Test) Utah Utah
(Wildcat) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5743 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

5-17-58 to 5-23-58 Drilled 9" hole 3290' to T/D 5047'.

Deviation from Vertical
2" @ 3290'
1-3/4" @ 3875'
1-1/2" @ 4110'

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

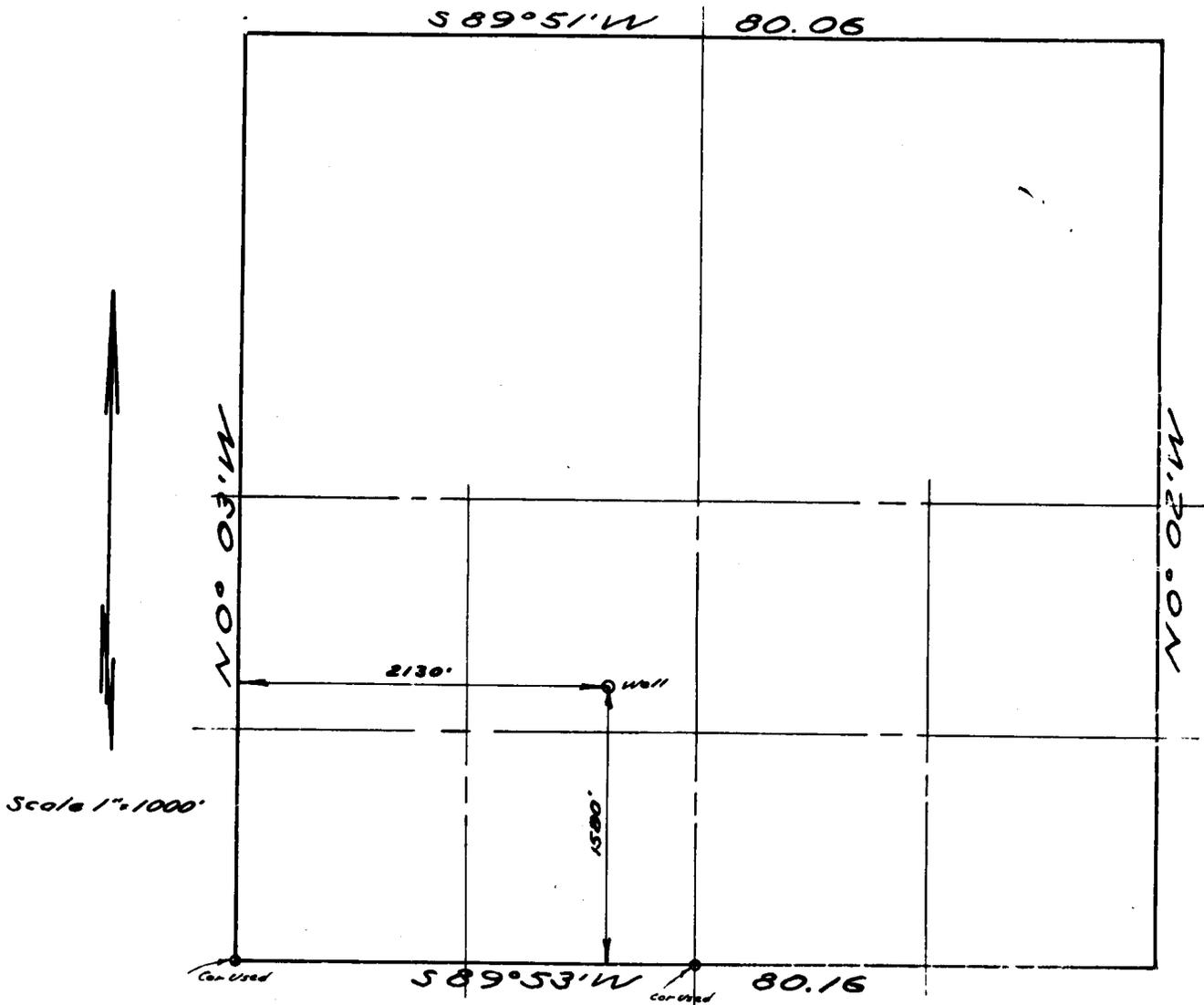
Company GREAT LAKES NATURAL GAS CORPORATION
Address 417 SOUTH HILL STREET
LOS ANGELES 13, CALIFORNIA

By Sidney R. Elliott
Title Manager Lands & Exploration

Township 11 South Range 21 East S.L.M. UINTAH County, State of UTAH

36	31	32	33	34	35	36	31	
1	6	5	4	3	2	1	6	
12	7	8	9	10	11	12	7	
13	18	17	16	15	14	13	18	
		NORTH BOUNDARY COTTONWOOD WASH UNIT						
24	19	U S L 013812 20	U S L 013811 21	U S L 013810 22	23	24	19	
		1 Unit Well LOCATION TEXAS NATURAL GASOLINE CORP. AND GREAT LAKES NATURAL GAS CORP. LESSEES						
25	30	U S L 013812 29	U S L 013811 28	U S L 013810 27	26	25	30	
36	31	32	33	34	35	36	31	
1	6	5	4	3	2	1	6	

GREAT LAKES NATURAL GAS CORP.
COTTONWOOD WASH UNIT #1



SEC 21, T11S, R21E SALT LAKE
BASE & MERIDIAN
UINTAH COUNTY, UTAH

N. V. Ross

Ross Construction Co.

Kernal, Utah

PARTY Nelson, Marshall
Steve Luck

SURVEY

Cottonwood Wash Unit #1 Well, located
2130' w & 1580' s, Sec 21, T11 South
R21E, S2B & M, Uintah County, Utah.

DATE 27 March 1958
REFERENCES GLO Plots
G. L. O. Corners

FILE Great Lakes Natural
Gas Corp.

WEATHER Cloudy, Rain

State

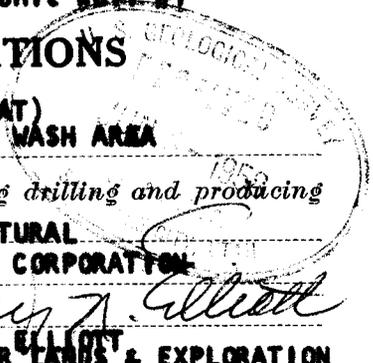
Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake City
LEASE NUMBER USA-UTAH -U-013811
UNIT Cottonwood Wash
Unit Well #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UNTAH Field (WILDCAT) COTTONWOOD WASH AREA
The following is a correct report of operations and production (including drilling and producing wells) for the month of MAY, 19 58, GREAT LAKES NATURAL GAS CORPORATION
Agent's address 465 SUBWAY TERMINAL BUILDING Company GAS CORPORATION
417 SO. HILL STREET Signed Sidney N. Elliott
LOS ANGELES 13, CALIFORNIA Agent's title MANAGER LANDS & EXPLORATION
Phone MADISON - 69384



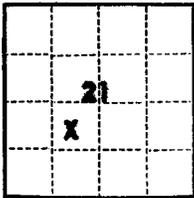
SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE4 SW4	11S	21E	Unit #1	0						Spudded May 1, 1958 Drilled to T/D 5047' Ran Casing and standing cemented. Contemplate frac job about June 9th 1958

NOTE.—There were 7000 runs or sales of oil; _____ M cu. ft. of gas sold;

_____ runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

W



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **SALT LAKE CITY,**
UTAH - 013811
Lease No. _____
Unit **COTTONWOOD WASH**
UNIT WELL NO. 1

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	Summary of Operations	
	5/24/58 - 5/30/58	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 3, 1958

Well No. **UNIT #1** is located **1580** ft. from **NE** line and **2130** ft. from **W** line of sec. **21**

⁴ ⁴
NE SW SEC 21 T11S R21E SLM
(4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
COTTONWOOD WASH UTAH UTAH
(Field) (County or Subdivision) (State or Territory)
(WILDCAT)

The elevation of the derrick floor above sea level is **5743** ft. **more or less**

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

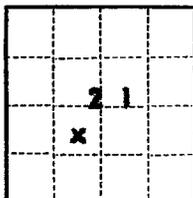
- 5/24/58 to 5/26/58 - Ran Logs
- 5/27/58 - Ran 7' casing - set at 4858' ground level and cemented with 500 sacks
- 5/27/58 to 5/30/58 - Standing cemented.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **GREAT LAKES NATURAL GAS CORPORATION**

Address **417 SOUTH HILL ST. SUITE 465**
LOS ANGELES 13, CALIFORNIA

By *Sidney N. Elliott*
Sidney N. Elliott
Title **Manager of Lands and Exploration**



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **SALT LAKE CITY, UTAH**
Lease No. **USA-UTAH-013811**
Unit **COTTONWOOD WASH**
UNIT WELL NO. 1

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
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NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	Summary of operations	
	5-31-58 to 6-6-58	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 10th, 19 58

Well No. **UNIT #1** is located **1580** ft. from **S** line and **2130** ft. from **W** line of sec. **21**

NE 1/4 SW 1/4 **Sec 21** **T. 11 S. R. 21 E.** **S. L. M.**
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
COTTONWOOD WASH **UINTAH** **UTAH**
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is **5743** ft., more or less

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

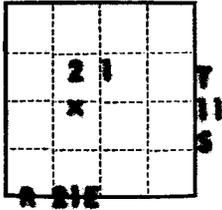
5/31/58
to
6/6/58 - Standing cemented

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **GREAT LAKES NATURAL GAS CORPORATION**

Address **417 South Hill St. - Suite 465**
Los Angeles 13, California

By *Sidney N. Elliott*
Sidney N. Elliott
Title **Manager of Lands & Exploration**



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office _____
Lease No. **COTTONWOOD WASH**
Unit **UNIT WELL NO. 1**

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY
NOTICE OF INTENTION TO ABANDON WELL.....	Summary of operations
	6/7/58 to 6/13/58

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 17, 1958

Well No. **Unit #1** is located **1580** ft. from **N** line and **2130** ft. from **E** line of sec. **21**

NE4 SW4 Sec. 21 **T. 11 S. R. 21E.** **S.L.M.**
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
COTTONWOOD WASH **UINTAH** **UTAH**
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is **5743** ft. **more or less**

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

6/7/58
to
6/13/58 - Standing cemented.

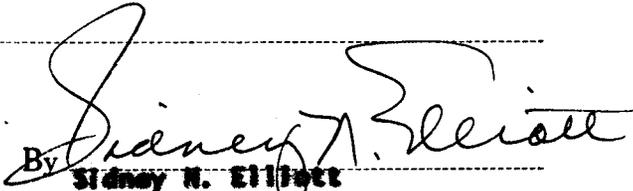
I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **GREAT LAKES NATURAL GAS CORPORATION**

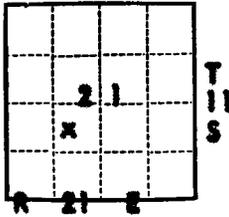
Address **417 South Hill St., - Suite 465**

Los Angeles 13, California

CCs: **U.S.G.S. (3)**
Utah State (1)
Texas Nat. Gas Corp. (1)
Emmett E. Schlack (1)
O. N. Calhoun (1)

By 
Sidney N. Elliott
Title **Manager of Lands & Exploration**

W/



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office Salt Lake City, Utah
Lease No. USA-UTAH 013811
Unit COTTONWOOD WASH
UNIT WELL No. 1

71-11
6-27

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
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NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	<u>Summary of operations</u>	
	<u>June 14 1958 to June 21, 1958</u>	<u>x</u>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 24, 1958

Well No. 1-Unit is located 1580 ft. from S line and 2130 ft. from W line of sec. 21

NE⁴SW⁴ SEC. 21

($\frac{1}{4}$ Sec. and Sec. No.)

T 11 S R 21 E

(Twp.)

(Range)

SLM

(Meridian)

COTTONWOOD WASH UNIT

UINTAH

(County or Subdivision)

UTAH

(State or Territory)

WILDCAT (Field)

The elevation of the derrick floor above sea level is 5743 ft. more or less

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

June 14, 1958

to

June 21, 1958 - Standing cemented

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company GREAT LAKES NATURAL GAS CORPORATION

Address 417 South Hill St. - Suite 465

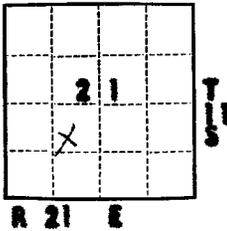
Los Angeles 13, California

By Sidney M. Elliott

Title Manager of Lands and Exploration

(SUBMIT IN TRIPLICATE)

Land Office **SALT LAKE CITY, UTAH**
 Lease No. **4047-UTAH-012641**
 Unit **COTTON WOOD WASH UNIT WELL NO. 1**



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
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NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	Summary of operations June 22, 1958 to June 28, 1958	x

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 29, 1958

Well No. **1** - Unit is located **1580** ft. from **S** line and **2130** ft. from **W** line of sec. **31**

NE SW SEC 21 (1/4 Sec. and Sec. No.) **T 11 S R 21 E** (Twp.) (Range) (Meridian)
COTTONWOOD WASH UNIT (Field) **UTAH** (County or Subdivision) **UTAH** (State or Territory)
WILDCAT

The elevation of the derrick floor above sea level is **5743** ft. **more or less**

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

June 22, 1958
to
June 28, 1958 - Standing cemented

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **GREAT LAKES NATURAL GAS CORPORATION**

Address **417 South Hill St., - Suite 465**
Los Angeles 13, California

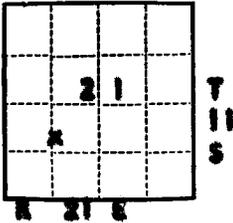
By *Sidney N. Elliott*
Sidney N. Elliott
Title **Manager, Lands & Exploration**

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City-Utah

Lease No. USA-UTAH 011011

Unit COTTONWOOD WASH
UNIT WELL NO. 1



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
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NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	<u>Summary of operations</u>	
	<u>June 29, 1958 to July 5, 1958</u>	<u>x</u>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

July 7, 1958

Well No. 1-Unit is located 1580 ft. from S line and 2130 ft. from W line of sec. 21

4 4
NE SW SEC 21
($\frac{1}{4}$ Sec. and Sec. No.)

T 11 S R 21 E
(Twp.) (Range) (Meridian)

COTTONWOOD WASH UNIT
(Field)

UINTAN
(County or Subdivision)

UTAH
(State or Territory)

The elevation of the derrick floor above sea level is 5743 ft. more or less

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

June 29, 1958
to
July 5, 1958 - standing cemented

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company GREAT LAKES NATURAL GAS CORPORATION

Address 417 South Hill St. - Suite 465
Los Angeles 13, California

By Sidney M. Elliott
Sidney M. Elliott
Title Manager of Lands & Exploration

(SUBMIT IN TRIPLICATE)

Land Office alt lake City - Utah
Lease No. USA UTAH 013621
Unit COTTONWOOD WASH UNIT WELL NO. 1

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

M-H
8-19

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....
NOTICE OF INTENTION TO ABANDON WELL.....	<u>Summary of operations</u> <u>July 6th to 19th, 1958</u>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

July 19th, 1958

Well No. 1-Unit is located 1580 ft. from S line and 210 ft. from W line of sec. 21
NE 34 SEC 21 (Sec. and Sec. No.) T 11 S (Twp.) R 21 E (Range) SLM (Meridian)
COTTONWOOD WASH UNIT UINTAH (County or Subdivision) UTAH (State or Territory)
WILDECAT (Field)

The elevation of the derrick floor above sea level is 5743 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

July 6 to 12 1958)
 (Standing cemented
 July 13 to 19 1958)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Great Lakes Natural Gas Company
 Address 417 South Hill Street
Los Angeles 13, California

By Frederic G. Elliott
Widney N. Elliott
 Title Manager, Lands & Exploration

W

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Sale Lake City
LEASE NUMBER USA-Utah-U-013811
UNIT Cottonwood Wash
Unit Well #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

(WILDCAT)

State UTAH County UINTAH Field COTTONWOOD WASH AREA

The following is a correct report of operations and production (including drilling and producing wells) for the month of July, 1958,

Agent's address 465 Subway Terminal Building Company GREAT LAKES NATURAL GAS CORPORATION

417 South Hill Street
Los Angeles 13, California

Signed Sidney N. Elliott Sidney N. Elliott

Phone Madison 69384 Agent's title Manager, Lands & Exploration

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<u>NE 1/4 SW 1/4 Sec. 21</u>	<u>11S</u>	<u>21E</u>	<u>Unit #1</u>	<u>0</u>						<u>No production yet - Shut down - preparing to frac.</u>

W NOTE.—There were runs or sales of oil; M cu. ft. of gas sold; runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

(SUBMIT IN TRIPLICATE)

Land Office Salt Lake City
Lease No. USA UTAH 013611
Unit COTTONWOOD WASH
UNIT WELL NO. 1

			T 11 S

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

R. 21 E
SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
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NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		<u>Summary of Operations</u> <u>August 3 to 23 inclusive</u>	<input checked="" type="checkbox"/>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

..... August 23,, 1958

Well No. 1-Unit is located 1500 ft. from RSR line and 2130 ft. from W line of sec. 21

NE 24 Sec. 21 (1/4 Sec. and Sec. No.) T. 11 S. (Twp.) R. 21 E. (Range) S. 1 N. (Meridian)

COTTONWOOD WASH UNIT (Field) UTAH (County or Subdivision) UTAH (State or Territory)

The elevation of the derrick floor above sea level is 574 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

8/3 to 8/16 Inclusive: Standing Cemented.
8/17 to 8/23 Inclusive: Standing Cemented and preparing to move in to test.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

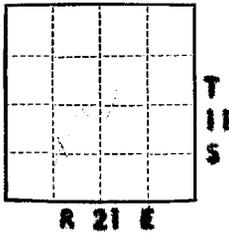
Company GREAT LAKES NATURAL GAS CORPORATION

Address 417 South Hill Street

Los Angeles, 13, California

Original signed
Sidney N. Elliott

By Sidney N. Elliott,
Title Manager, Lands & Exploration



(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Land Office **Salt Lake City**
Lease No. **USA-UTAH-013811**
Unit **COTTONWOOD WASH**
UNIT WELL NO. 1

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
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NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		Summary of Operations August 24-30 inclusive	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

September 2, 1958

Well No. **1-Unit** is located **1580** ft. from **[N]** line and **2135** ft. from **[W]** line of sec. **21**

NE 1/4 Sec. **21** T. **11 S.** R. **21 E.** S.L.M.
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
COTTONWOOD WASH UNIT **UINTAH** **UTAH**
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is **574** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

August 24-30 inclusive - Waiting on cable tools to frac and test.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

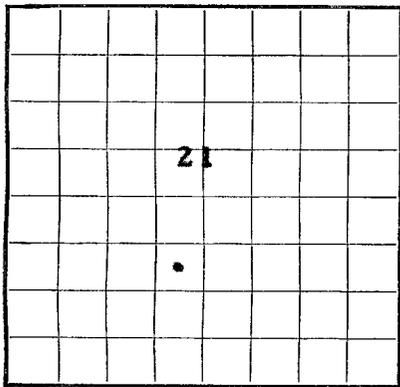
Company **GREAT LAKES NATURAL GAS CORPORATION**

Address **417 South Hill Street**

Los Angeles 13, California

Original signed
Sidney N. Elliott
By **Sidney N. Elliott, Manager**
Title **Lands & Exploration**

Salt Lake City
U. S. LAND OFFICE Utah 013811 Utah
SERIAL NUMBER
LEASE OR PERMIT TO PROSPECT Cottonwood Wash Unit Well #1



T.
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S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company Great Lakes Natural Gas Address 417 South Hill St., Los Angeles, Calif.
Lessor or Tract _____ Field Cottonwood Wash State Utah
Well No. 1 Sec. 21 T. 11S R. 21E Meridian SLM County Uintah
Location 1580 ft. XX of S Line and 2130 ft. XXX of W Line of Sec. 21 Elevation 5766 KB
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records. GREAT LAKES NATURAL GAS CORPORATION

Signed Sidney N. Elliott
Date October 15, 1958 Title Mgr., Lands & Exploration

The summary on this page is for the condition of the well at above date.

Commenced drilling May 2, 1958 Finished drilling May 22, 1958

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from _____ to _____ No. 4, from _____ to _____
No. 2, from _____ to _____ No. 5, from _____ to _____
No. 3, from _____ to _____ No. 6, from _____ to _____

001-11300

*See attached detailed report. IMPORTANT WATER SANDS

No. 1, from _____ to _____ No. 3, from _____ to _____
No. 2, from _____ to _____ No. 4, from _____ to _____

*See attached detailed report.

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
13-3/8	48#	8rd	Youngstown						surface production
*See attached detailed report.									

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
13-3/8	204 gr.	185			
7 1/2	4858	500			

FOLD MARK

*See attached detailed report.

PLUGS AND ADAPTERS
Heaving plug—Material _____ Length _____ Depth set _____
Adapters—Material _____ Size _____

SHOOTING RECORD

*See attached detailed report

FORMATION RECORD—Continued

FROM—	TO—	TOTAL FEET	FORMATION
1060	1100	40	Shale, variegated, dense, broken, abundant calcite filled fractures -
1100	1130	30	Shale as above, variegated, fractures calcite filled, oil staining throughout, abundant pyrite, oil heavy and possibly dead -
1130	1140	10	As above, conglomerate -
1140	1160	20	As above interbedded shale and limy shale, calcite veins - abundant pyrite -
1160	1190	30	Sand, brown, rounded unconsolidated, interbedded with shale, brown, petroliferous grading into brown petroliferous shale -
1190	1210	20	Sand, brown, fine-medium grain, abundant lime inclusions - good dead oil stain (?)
1210	1240	30	Shale, brown, limy, very petroliferous -
1240	1260	20	Shale as above becoming less petroliferous -
1260	1320	60	Shale as above becoming sandy with good oil stain, no cut -
1320	1380	60	Shale, brown, very limy, highly fractured with chert inclusions -
1380	1430	50	Shale as above with tan clay inclusions - broken shale and clay - calcareous inclusions - interbedded lime, shale, conglomerate -
1430	1450	20	As above, increase in shale - has petroliferous appearance -
1450	1460	10	As above, some dolomite, tan inclusions -
1460	1490	30	Shale, gray, very micaceous, abundant pyrite, silicified conglomerate -
1490	1500	10	Conglomerate, abundant free grains, pyrite, shale -
1500	1520	20	Primarily shale, interbedded with clay, conglomerate -
1520	1540	20	Sand, medium grain, sub-angular, conglomeratic, yellow dolomite -
1540	1560	20	Sand as above, calcareous reef, crinoid stems, sand gray, fine grain - trace glauconite -
1560	1590	30	Sand, gray, fine grain, micaceous, pyrite - water -
1590	1620	30	Sand as above with brown sand grain accessories
1620	1630	10	Shale, gray, limy in part -
1630	1640	10	Sand and shale as above -
1640	1700	60	Shale, bright green, dense - brown shale -
1700	1800	100	Shale, gray-green, minutely micaceous, dark brown oil stain - trace limestone - interbedded with calcareous sand - abundant pyrite -
1800	1810	10	As above with conglomeratic sand interbedded -
1810	1820	S 10	Sand, white, fine-medium grain, sub-angular - spotted stain, heavy black oil -
1820	1840	20	Limestone, tan, massive, soft with fractures, heavy black oil in fractures -
1840	1850	10	As above, vugular -
1850	1870	20	As above, becoming light cream, chalky - some heavy black oil staining -
1870	1880	10	Sand, gray, very fine grain, silty, micaceous, very little porosity -
1880	1890	10	As above with streaks fine grain, white angular fairly porous sand

HISTORY OF OIL OR GAS WELL 10-43094-2 U. S. GOVERNMENT PRINTING OFFICE

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

E. O. McLOTHLIN
Brewer 637
Hardin, Montana

SUPPLEMENTAL WELL HISTORY

GREAT LAKES NATURAL GAS CORPORATION

COTTONWOOD WASH UNIT

WELL NO. 1

Township 11 South Range 21 East

Section 21 (NE SW)

Uintah County, Utah

Elevation 5766 KB (5755 G.L.)

Spudded May 2, 1958

Total Depth 5047

CASING

Surface: 13 3/8 8 RT H40 Landed at 216' KB (204' Net pipe) Cemented with 185 sacks regular cement with 2% Calcium Chloride.

Production String 7", 23# SC J-55 Landed at 4864 KB (net pipe 4852) cemented with 500 sacks Halliburton Pozmix "A" cement with 2% gel. Bottom 4 joints were tack welded. Eight Centralizers were used throughout cemented area. Baker Guide Shoe and Baker Automatic Fillup float collar used. Float collar is on top of 1st joint. Plug pumped down by Halliburton with 191 barrels mud. Pressured to 2000 psi. pressure held O.K. Released pressure to check float which also O.K. Re pressured to 1200 psi shut in at 5:15 P.M.

- May 27 Ran temperature survey by McCullough Tool Company at 12:01 A.M.
Top of cement at 3560' (KB)
Set slips in head with 70,000 indicated weight on slips.
Released rig at 12 noon.
Further work suspended until August 23.
- August 23 Moving in and Rigging up (Dead man holes crew only)
- August 24 Moving in and Rigging up (Dead man Holes crew only)
- August 25 Moving in and Rigging up (Dead man holes crew only)
- August 26 & August 27
Ran tubing in with bit to tag bottom and displace mud with lime water.
Ran Schlumberger Gamma Ray and Collar log. (Schlumberger ticket no. 24697)
Perforated following zones:
Used Schlumberger 5' Jet 4 holes ft. and Schlumberger Bullets 4 per ft:
4722 - 4768
4622 - 4650
- August 28 Refer to Schlumberger tickets No. 24698 and 24699
Attempt was made to run packer through top perfs to isolate upper zone. However, burrs on inside of pipe prevented this.
- August 29 Ran Scraper - Packer would still not go.
- August 30 Ran scraper again and rotated. Went in with packer set between perfs. Swabbed dry. Broke down formation with Halliburton. This zone made about 5 barrels

black sulphur water per hour with small amount of gas. Not deemed advisable for further testing. Sample of this water was sent to Mr. Bob Jones in Capper for further study.

- August 31 Swabbed - Rigged up for squeeze. Squeezed 100 sacks regular cement. Squeeze pressure 3800#. Displaced cement plug in pipe. Top at 4688. Moved packer up hole above upper perfs and reset. Waited on cement to set in pipe below.
- September 1 Swabbed zone 4622 - 4650. Recovered approximately 6 bbls. water (salty) per hour and small amount of gas. Broke down formation with Halliburton truck. Water increased considerably. Too much water for commercial gas well. Squeezed with 70 sacks regular cement with 3600# (surface) pressure. Left cement plug at 4581 (top).
- September 2 Waited on cement to set and rigged up to drill cement down to 4700.
- September 3 Perforated 4676 - 4689 Ran tubing and set packer. Pressured up to 5500 (surface) psi. Built up to 1000# in annulus, indicating Packer leaking or fluid going up between pipe and cement job above. Swabbed dry. Decided not to frac. Feared water.
- September 4 Perforated zone 4455 - 4469. 4 jets per foot by Schlumberger 5' gun. Ran packer, swabbed dry. Small amount of gas showing (enough for flare). Small amount of water. Pressured up on formation. Broke down at 2800 down to 1800. Released pressure and swabbed. Made salt water - not enough gas for further testing. Prepared to squeeze. Squeezed 35 sacks regular cement into formation, pressure to 3500, held 30 min., reversed out. Top of Cement plug approximately 4440.
- September 5 Started out of hole with packer laying down tubing. Lost packer in hole - went back in hole with overshot - picked up fish - came out of hole.
- September 6

Bolted steel plate on spool on casing. Other equipment was hauled to Vernal to Pease Bros. yard. Released Rig.

Well capped and suspended pending further study.

E. O. McGLOTHLIN
Hardin, Montana

September 29, 1958

Well Name: Great Lakes Natural Gas
Cottonwood Wash Unit #1

Location: Township 11 South - Range 21 East
Section 21: NESW
Uintah County, Utah

Commenced: May 2, 1958

Ceased Drig: May 22, 1958

Casing: 13-3/8" 84d, 48#, H-40, landed at 204' (216' KB)
with 185 sacks cement, 2% CaChloride
7" set at 4858' (G1) with 500 sacks cement

Drig. Contr: Falcon-Seaboard Drilling Co.
Toolpusher: Floyd O. Story
Drillers: Carl Acres, A. N. Williams, Claude Payton

Type Rig: (MA-1) Unit "U-35", 2Waukesha "GKU" and 1 Waukesha
"LRO" engines, 290 H. P. on hoist, 1-7-1/2x14 "HP 14,000"
Wheland pump, 131' L.C. Moore Mast

Daily Drilling Report

5-2-58 Rigging up - started drilling rat hole 5 p.m.

5-3-58 Finished drilling rat hole and mouse hole - started drilling
12-1/2" hole to 252' - reamed 12-1/2" to 17-1/2" hole - 225' -
started running 13-3/8" casing -

5-4-58 Ran 13-3/8" OD, 8rd, 48#, Youngstown smls casing, H-40,
ST&C, set at 204' with 185 sacks regular cement, 2% CaCl -
(216' KB) circulated to surface, completed at 1:45 a. m. -
rigging up and nipling up - testing casing at 5 p.m. with
500# - all okay -

5-5-58 Mixing water and lime - started drilling at 8:30 a.m. -
stuck drill pipe at 314' - 11 a.m. - not enough air from
compressors to clean hole - would only give 125# - ran
1" and 2" pipe down beside drill pipe and regained circulation -
drill pipe came loose - started hole with 4 5-1/2" drill collars -

5-6-58 Finished fishing - started drilling with Jel and mud -
drilling 314' - 560'

5-7-58 Drilling 560' - 815' - ran out of water - shut down waiting on
water -

5-8-58 Drilling 815' - 1160' - drilling with small amount of air and
mud - deviation jumped from 3/4 deg. to 2 deg. - needed
more drill collars - 3/4 deg. at 950' - 2 deg. at 1160'

5-9-58 Drilling 1160' - 1490' - holding up because of deviation -
2 deg. at 1215' - 3-1/2 deg. at 1450'

Emmett E. Schleck
Petroleum Geologist

Great Lakes Natural Gas
Cottonwood Wash Unit #1
Daily Drilling Report (contd)

5-10-58 Drilling 1490' - 1713' - picked up 10 6-1/16 drill collars -
took a lot of time - 3-1/4 deg. at 1480' - 3 deg. at 1550' -
2-3/4 deg. at 1670' - decided to mud up for protection -
no water as yet -

5-11-58 Drilling 1713' - 2016' - ran into water at approximately
2000' - lost some time - 3 deg. at 1750' - 2-1/2 deg. at
1810' - 3 deg. at 2000'

5-12-58 Drilling 2016' - 2303' - slowed down by water - deviation
3 deg. at 2060' - 2-1/4 deg. at 2245' -

5-13-58 Drilling 2303' - 2696' - first good day of drilling -
deviation 2-1/4 deg. at 2380' - 1-1/4 deg. at 2598' -

5-14-58 Drilling 2696' - 3034' - drilling with 318 bbls. new water
coming out of hole per hour - adding 6 - 8 sacks lime per
hour - 1-3/4 deg. at 2690' - 1 deg. at 2780' - 1-1/2 deg.
at 3000' -

5-15-58 Drilling 3034' - 3240' - trips taking a long time - 6 to 9 hours -
deviation 1-1/4 deg. at 3090' -

5-16-58 Drilling 3240' - 3456' - 2 deg. at 3290' - 1-3/4 deg. at 3410'

5-17-58 Drilling 3456' - 3704' - deviation 2 deg. at 3540' -
1-1/2 deg. at 3750' -

5-18-58 Drilling 3704' - 3931' - 1-1/2 deg. at 3750' -

5-19-58 Drilling 3931' - 4141' - 1-1/2 deg. at 4100' -

5-20-58 Drilling 4141' - 4550' - well drills good - takes 8 - 9 hours
for trips -

5-21-58 Drilling 4550' - 4772' -

5-22-58 Drilling 4772' - 5047' - started conditioning hole after
drilling to total depth - preparing to log -

5-23-58 Tried to log - had to condition hole -

5-24-58 Logging and conditioning hole -

5-25-58 Running 7' casing - set at 4858' (Gr.) with 500 sacks cement -

Total Depth - 5047'

Elevation - 5766' KB; 5755' GL.

Emmett E. Schieck
Petroleum Geologist

Great Lakes Natural Gas
Cottonwood Wash Unit #1

Bit Record

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Serial</u>	<u>Depth</u> <u>Out</u>	<u>Feet</u>	<u>Hours</u>	<u>Wt.</u> <u>1000</u> <u>#</u>	<u>RPM</u>	<u>Dev.</u>	<u>Pump</u> <u>Press</u>	<u>Remarks</u>
					0	0						
1	12-1/4	HTC	OSC	Betun	131	131	17 1/2	ATI	120	1/4	250	Rerun
2	"	"	OSC-3	1632	254	123	11-1/2	"	"	"	"	Dull
3	9"	"	"	35462	530	276	12	12	"	"	"	"
4	"	"	"	39030	794	264	15	15	"	3/4	400	"
5	"	"	"	55051	1157	363	19-1/2	"	"	2	300	"
6	"	Reed	YT	Y89826	1467	310	14-3/4	"	"	"	"	"
7	"	"	"	Y64218	1713	246	13	"	"	2-3/4	400	"
8	"	HTC	OWV	57209	2108	395	25-1/2	"	" "	3	"	"
9	"	"	"	63965	2565	457	24	20	100	2-1/4	"	"
10	"	"	"	55845	3117	552	31	20/30	"	1-1/2	"	"
11	"	"	"	47021	3343	226	15-3/4	20	95	2	"	"
12	"	"	"	64065	3679	333	20	25	"	1-3/4	"	"
13	"	"	"	55728	3808	139	13-3/4	"	"	1-1/2	350	"
14	"	"	OSC-1-g	38195	4287	479	28-1/4	"	80	"	"	"
15	"	"	"	37544	4556	269	12-3/4	"	"	"	450	"
16	"	"	OWV	63775	4772	216	13-1/2	"	"	"	400	"
17	"	"	OSC-1-g	53223	5095	273	TD	"	"	"	400	"

Note:

Run #1 & #2 - water

Runs #3 - #17 incl. - lime water

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description - Samples start at 750'

<u>From</u>	<u>To</u>	<u>Description</u>
750	770	Shale, light brown-buff, limy, micaceous, fossil fragments -
770	780	Shale, as above with abundant pyrite inclusions, conglomerate and clay -
780	820	Shale, gray-green, siliceous, abundant pyrite, limy -
820	830	Shale, gray-green, limy, interbedded conglomerate, clay and pyrite -
830	850	Shale as above with vugular calcite veins, heavy black oil in fractures - oil does not fluoresce -
850	880	Shale, as above, all shales have petroliferous appearance - variegated and limy -
880	920	Shale and clay, broken and interbedded -
920	950	Shale, limy with clay inclusions, very broken, oil in fractures -
950	970	As above with some conglomerate inclusions, oil in calcite fractures -
970	990	As above, chert, fractured shale, conglomerate -
990	1010	Interbedded shale, conglomerate, etc. - very broken -
1010	1060	Shale, brown, broken, chert - with interbedded conglomerate, pyrite -
1060	1100	Shale, variegated, dense, broken, abundant calcite filled fractures -
1100	1130	Shale as above, variegated, fractures calcite filled, oil staining throughout, abundant pyrite, oil heavy and possibly dead -
1130	1140	As above, conglomerate -
1140	1160	As above interbedded shale and limy shale, calcite veins - abundant pyrite -
1160	1190	Sand, brown, rounded unconsolidated, interbedded with shale, brown, petroliferous grading into brown petroliferous shale -
1190	1210	Sand, brown, fine-medium grain, abundant lime inclusions - good deal oil stain (?)
1210	1240	Shale, brown, limy, very petroliferous -
1240	1260	Shale as above becoming less petroliferous -
1260	1320	Shale as above becoming sandy with good oil stain, no cut -
1320	1380	Shale, brown, very limy, highly fractured with chert inclusions -
1380	1430	Shale as above with tan clay inclusions - broken shale and clay - calcareous inclusions - interbedded lime, shale, conglomerate -
1430	1450	As above, increase in shale - has petroliferous appearance -
1450	1460	As above, some dolomite, tan inclusions -
1460	1490	Shale, gray, very micaceous, abundant pyrite, silicified conglomerate -
1490	1500	Conglomerate, abundant free grains, pyrite, shale -

Ermett E. Schieck
 Petroleum Geologist

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description (2)

<u>From</u>	<u>To</u>	<u>Description</u>
1500	1520	Primarily shale, interbedded with clay, conglomerate -
1520	1540	Sand, medium grain, sub-angular, conglomeratic, yellow dolomite -
1540	1560	Sand as above, calcareous reef, &rinoid stems - sand gray, fine grain - trace glaucomite -
1560	1590	Sand, gray, fine grain, micaceous, pyrite - water -
1590	1620	Sand as above with brown sand grain accessories -
1620	1630	Shale, gray, limy in part -
1630	1640	Sand and shale as above -
1640	1700	Shale, bright green, dense - brown shale -
1700	1800	Shale, gray-green, minutely micaceous, dark brown oil stain - trace limestone - interbedded with calcareous sand - abundant pyrite -
1800	1810	As above with conglomeratic sand interbedded -
1810	1820	Sand, white, fine-medium grain, sub-angular, spotted stain, heavy black, oil -
1820	1840	Limestone, tan, massive, soft with fractures, heavy black oil in fractures -
1840	1850	As above, vugular -
1850	1870	As above, becoming light cream, chalky - some heavy black oil staining -
1870	1880	Sand, gray, very fine grain, silty, micaceous, very little porosity -
1880	1890	As above with streaks fine grain, white angular fairly porous sand -
1890	1900	Limestone, tan, vugular, granular, very fossiliferous -
1900	1910	Sand, gray-white, conglomerate with abundant large well rounded sand grains -
1910	1920	Sand, gray, shaly, varicolored, dense, no porosity, dirty -
1920	1930	Sand as above, interbedded with sand white, clean, sharp, angular, very sparkly -
1930	1960	Sand, white, fine-medium grain, sub-angular, very porous with biotite flake inclusions -
1960	1970	As above grading into gray silty dirty, very micaceous sand -
1970	1990	Limestone, tan, soft, fossiliferous, vugular -
1990	2000	Sand, white, very fine grain with large well rounded grain inclusions, porous -
2000	2010	Limestone, tan, vugular with anhydrite inclusions -
2010	2040	Shale, dark gray, silty, micaceous -
2040	2060	As above with white fine grain sub-angular sand interbedded -

Emmett E. Schieck
 Petroleum Geologist

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description (3)

<u>From</u>	<u>To</u>	<u>Description</u>
2060	2080	As above with tan limestone, very fossiliferous, interbedded -
2080	2090	Sand, white, conglomeratic, spotted heavy oil stain -
2090	2110	As above grading into fine-medium grain, sub-angular sand -
2110	2140	Sand, white, fine grain, sub-angular, uniform, light spotted stain with green accessories -
2140	2160	Limestone, tan, vugular - spotted saturation, heavy black oil samples -
2160	2180	Sand, white, very fine grain, uniform, spotted stain -
2180	2190	As above grading to light green sandy shale, very micaceous -
2190	2200	As above grading into light limestone, soft, very fossiliferous -
2200	2220	Sand, white, very fine grain, well sorted, porous with calcareous cement - some spotted stain -
2220	2230	As above with very fossiliferous limestone re-entering -
2230	2260	Sand as above - staining better, still spotted -
2260	2280	Limestone re-entrant -
2280	2320	Sand, white, well sorted, spotted stain, dead oil -
2320	2340	Shale, gray-green, very micaceous, slightly silty -
2340	2360	As above, abundant dark brown oil shales -
2360	2370	Shale as above becoming very silty to sandy -
2370	2400	Sandstone, white, very fine grain with biotite inclusions - tight -
2400	2420	Sandstone, white-light green, fine-very fine grain, friable with biotite inclusions and pyrite inclusions -
2420	2450	Sandstone as above, shale, light brown-green, calcareous - trace dark brown oil shales -
2450	2480	Limestone, light tan, dense - sandstone as above -
2480	2490	Shale, dark brown oil shale - sandstone, gray, very fine grain, micaceous -
2490	2500	Limestone, white-gray, soft, fossiliferous -
2500	2510	As above - trace chert -
2510	2520	As above - becoming sandy -
2520	2540	Sand, white, fine grain, friable with spotted dead oil stain -
2540	2560	Shale, dark gray-brown, trace oil stain - sandstone as above -
2560	2570	Shale, white-brown oil shales -
2570	2580	Sandstone, very fine grain, white, well rounded, medium grains interbedded -
2580	2600	Shale, variegated, interbedded with white, fine grain sandstone -
2600	2620	Sandstone, white, very fine grain, quartzitic, friable -
2620	2670	As above with few spots dead oil stain, few fossils -
2670	2680	Sandstone as above, siltstone, light gray, red, calcareous -
2680	2690	As above becoming very fine grain, micaceous, variegated shale to silty shale -

Emmett E. Schieck
 Petroleum Geologist

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description (4)

<u>From</u>	<u>To</u>	<u>Description</u>
2690	2720	Shale, dark gray-brown, oil stain -
2720	2730	Sandstone, white, very fine grain, well cemented, trace with cut and fluorescence - very little porosity -
2730	2750	Sandstone as above - very silty -
2750	2770	Sandstone, white-brown, unconsolidated, very fine grain with abundant varicolored grains -
2770	2780	Shale, dark brown, dense, biotite, very limy -
2780	2790	Sandstone, white-brown, fine-medium grain, sub-angular, porous -
2790	2820	Sandstone, as above, interbedded with gray siltstone, tight, pyrite -
2820	2850	Shale, gray, silty, very micaceous -
2850	2860	Shale, light brown, petroliferous, micaceous -
2860	2870	As above grading into brittle shale - pyrite - somewhat limy -
2870	2880	As above - brown oil shale, poor fluorescence, no cut -
2880	2890	Limestone, white-cream, soft, massive -
2890	2920	Sandstone, white, medium grain, sub-angular, very porous, quartzitic, sparkly with micaceous and pyrite inclusions -
2920	2930	As above grading into siltstone -
2930	2980	Shale, brown-tan, oil shales interbedded, gray siltstone -
2980	2990	As above with gray-green shale -
2990	3020	Sandstone, light tan, porous to tight, friable sandstone with fair fluorescence and good cut - best looking show -
3020	3030	Sandstone, very unconsolidated, friable -
3030	3040	Shale, dark brown oil shales - sandstone as above -
3040	3050	Sandstone as above -
3050	3060	Sandstone as above, shale, brown, trace tan limestone -
3060	3080	Limestone, tan, soft, dense, abundant fossils -
3080	3090	Sandstone and shale as above -
3090	3110	As above, mostly sandstone -
3110	3130	Shale, dark brown-buff, micaceous, petroliferous - trace oil stained limestone -
3130	3140	Sandstone, tan, conglomeratic with tan kaolin matrix -
3140	3160	Shale, dark brown, petroliferous, very limy with calcite filled fractures -
3160	3180	Shale, gray, silty, very micaceous -
3180	3190	As above grading into brown petroliferous shale -
3190	3210	Sandstone, white, unconsolidated, angular, clear quartz inclusions with dead (?) oil staining -
3210	3220	Sandstone, becoming silty, interbedded with dark brown oil shale -

Emmett E. Schieck
 Petroleum Geologist

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description (5)

<u>From</u>	<u>To</u>	<u>Description</u>
3220	3240	Limestone, light tan, soft - sandstone as above -
3240	3270	Sandstone, light brown, silty, light oil stain grading into shale, dark brown, silty, petroliferous, interbedded as above -
3270	3280	Limestone, tan, vugular, marly, soft -
3280	3300	Sandstone, white, quartzitic with abundant varicolored accessories, becoming unconsolidated and friable -
3300	3310	Shale, gray-brown, micaceous, trace phosphatic pebbles -
3310	3330	Limestone, tan, soft, vugular, spotted saturation, fossiliferous - grading into gray-brown shales -
3330	3370	Shale, dark brown oil shales, very petroliferous with 20% sandstone conglomerate, tan, abundant lime inclusions -
3370	3390	Shale, red, green, gray, micaceous, slightly silty -
3390	3400	Shale, red, sandstone 80%, white quartzitic, with pyrite and biotite inclusions -
3400	3410	Sandstone decreasing -
3410	3440	Shale, varicolored -
3440	3460	Shale as above, sandstone, white, very fine grain, well cemented with calcareous cement -
3460	3530	Shale, red and green, as above -
3530	3560	Shale as above, sandstone, white, very fine grain, sub-angular, tight -
3560	3570	Shale as above, sandstone 15%, white, clean, very fine grain, unconsolidated -
3570	3580	Limestone, tan, marly, fossiliferous, sand and shale as above -
3580	3590	Sandstone and shale as above -
3590	3600	Sandstone with black quartz grain inclusions - shale as above -
3600	3620	Sandstone, white, very fine-medium grain, poorly sorted, fairly well cemented -
3620	3650	Shale, red and green, variegated, micaceous, slightly silty -
3650	3660	As above - trace brown limy shale with dark oil stain -
3660	3680	Limestone, dark brown, fair saturation - dark brown oil shales - grading into red and green limy shales, no show -
3680	3700	Limestone, tan, fossiliferous, soft - shale as above -
3700	3750	Limestone and red limy shale interbedded, abundant pyrite and cert inclusions -
3750	3770	Shale, bright red, variegated, sandstone, buff, very fine grain, dirty, slight stain - interbedded limestone and red variegated shale, abundant pyrite -
3770	3790	As above with phosphatic nodules -
3790	3820	Shale, variegated -

Emmett E. Schieck
 Petroleum Geologist

Great Lakes Natural Gas
 Cottonwood Wash Unit #1
 Uintah County, Utah

Sample Description (6)

3820	3840	As above - trace sand, white, very fine grain, angular, tight -
<u>Sample top - WASATCH 3840'</u>		
3840	3870	Shale, red, micaceous, silty - sandy -
3870	3980	Shale as above, becoming sub-waxy -
3980	4030	As above - sandstone, gray-tan, fine-medium fine, tight, abundant varicolored accessories -
4030	4060	Shale as above, sandstone, white-pink, very fine-medium fine, sub-angular, some porosity, sandstone interbedded, lenticular -
4060	4100	Shale increasing - sandstone decreasing -
4100	4150	Shale, red-pink, micaceous, arenaceous, varicolored -
4150	4230	Shale, red, variegated, sub-waxy to silty -
4230	4330	Shale as above with thin streaks sand, buff, some porosity - light stain -
4330	4360	Shale as above becoming more sandy -
4360	4390	Sand, white, quartzitic, angular with abundant varicolored accessories, fair porosity -
4390	4430	Sand, white, fine-medium grain, sub-rounded, quartzitic, friable, good porosity -
4430	4450	Some shale, interbedded, mostly sand -
4450	4470	Sand as above, shale red, minutely micaceous -
4470	4480	Shale, red, variegated, sub-silty -
4480	4490	Sand, white, fine grain, friable, quartzitic, sparkly, trace stain -
4490	4500	Sand appears interbedded with shale as above -
4500	4550	Sand, white, fine-medium grain, very porous, quartzitic, sub-angular -
4550	4570	Shale, variegated, pyrite -
4570	4650	Shale as above, some sand, tan, tight, abundant variegated accessories -
4650	4670	Sand, white, fine-medium grain, sub-angular, porous, light stain -
4670	4730	Shale, variegated, minutely micaceous -
4730	4760	Sand, white, fine-medium grain, porous, friable, pyritic inclusions -
4760	4790	Sand, white, friable, unconsolidated, frosted, varicolored accessories, becoming fine grain, silty -
4790	4830	Shale, varicolored, sand as above, cavings -

Great Lakes Natural Gas
Cottonwood Wash Unit #1
Uintah County, Utah

Sample Description (7)

<u>From</u>	<u>To</u>	<u>Description</u>
4830	4850	Shale as above, thin streaks sand, white, medium grain to silty
4850	4870	Shale, red to variegated, minutely micaceous -
4870	4950	Shale as above with large well rounded sand grains interbedded -
4950	4970	Sand, white-pink, very fine grain-medium grain, unconsolidated, calcareous cemented -
4970	4980	As above grading into red silty shale -
4980	5020	Shale, red, varicolored, sub-waxy -
5020	5047	Shale as above, sand-cavings (?)

TOTAL DEPTH 5047'

Emmett E. Schleck
Petroleum Geologist

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Form No. 43-2284
Approval expires 12-31-58
LAND OFFICE **SALT LAKE CITY**
LEASE NUMBER **USA-Utah U-013811**
UNIT **Cottonwood Wash #1**

LESSEE'S MONTHLY REPORT OF OPERATIONS

11-4
12-31

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat)

The following is a correct report of operations and production (including drilling and producing wells) for the month of August, September, October, November ~~1957~~ 1958

Agent's address 417 So. Hill Street, Suite 465 Company GREAT LAKES NATURAL GAS CORPORATION
Los Angeles 13, California

Phone MADison 6-9384 Signed Sidney N. Elliott Agent's title Sidney N. Elliott, Manager, Lands & Exploration

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0						No production- Shut down - well fraced - cogitating.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

W

E. O. McCLOTHLIN
Drawer 637
Hardin, Montana

W-18
10-31-SB

S U M M A R Y

**SPECIAL NOTE: PLEASE READ ALL OF THE ATTACHED REPORT BEFORE
ATTEMPTING FURTHER COMPLETION OF WORKOVER**

The present cement top is at 3560.

There are no open perforations in pipe. All previous perforations have been squeezed. If cement plugs are drilled out the casing should be tested before drilling out shoe to be sure squeeze jobs are holding satisfactory.

Top of last cement plug is approximately 4440. (From KB measurements or 11 ft. above ground level)

Well head equipment, tubing and other water well equipment is in Pease Bros. yard at Vernal, Utah.

E. O. McCLOTHLIN
Hardin, Montana

W

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake City
LEASE NUMBER USA-Utah-8013811
UNIT Cottonwood Wash #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat) 7/14
3/10

The following is a correct report of operations and production (including drilling and producing wells) for the month of February, 19 59

Agent's address 417 So. Hill St., Suite 465 Company GREAT LAKES NATURAL GAS CORPORATIC
Los Angeles 13, California Signed Sidney N. Elliott

Phone MADison 6-9384 Agent's title Sidney N. Elliott, Manager,

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	LANDS & WATERS (If none, so state)	Explorations (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0						No Production- Shut down - Well fraced. Cogitating.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE **SALT LAKE CITY**
LEASE NUMBER **USA-UTAH 0013811**
UNIT **COTTONWOOD WASH #1**

LESSEE'S MONTHLY REPORT OF OPERATIONS

7/14
4-20

State **UTAH** County **UINTAH** Field **COTTONWOOD WASH (Wildcat)**

The following is a correct report of operations and production (including drilling and producing wells) for the month of **March**, 19 **59**,

Agent's address **417 So. Hill St., Suite 465** Company **GREAT LAKES NATURAL GAS CORPORATION**
Los Angeles 13, California

Phone **Madison 6-9384** Signed *Sidney N. Elliott* **VICE PRESIDENT**
Agent's title **Sidney N. Elliott, Manager**

Lands & Exploration

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0						No Production Shut down - Well fraced. Cogitating.

Note.—There were **No** runs or sales of oil; **No** M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE SALT LAKE CITY
LEASE NUMBER USA UTAH 0013811
UNIT COTTONWOOD WASH #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat)

The following is a correct report of operations and production (including drilling and producing wells) for the month of April, 1959,

Agent's address 417 So. Hill St., Suite 465 Company GREAT LAKES NATURAL GAS CORPORATION

Los Angeles 13, California

Signed Sidney N. Elliott

Phone MADISON 6-9384

Agent's title Sidney N. Elliott, Vice President

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0						No Production shut down - Well fraced. Cogitating.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Salt Lake City
LEASE NUMBER USA Utah U013811
UNIT Cottonwood Wash #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat)

The following is a correct report of operations and production (including drilling and producing wells) for the month of May, 1959,

Agent's address 417 So. Hill St., Suite 465 Company GREAT LAKES NATURAL GAS CORPORATION

Los Angeles 13, California Signed Sidney N. Elliott

Phone Madison 6-9384 Agent's title Sidney N. Elliott, Vice Pres.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0						No production, shut down. Well fraced.

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Budget Bureau No. 42-R356.5
Approval expires 12-31-60.

LAND OFFICE SALT LAKE CITY
LEASE NUMBER USA Utah 0013811
UNIT Cottonwood Wash #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat)

The following is a correct report of operations and production (including drilling and producing wells) for the month of June, 1959

Agent's address 417 So. Hill St., Suite 465 Company GREAT LAKES NATURAL GAS CORPORATION
Los Angeles 13, California

Phone Madison 6-9384 Signed *Sidney M. Elliott* Agent's title Sidney M. Elliott, Vice Pres.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
NE 1/4 SW 1/4 Sec. 21	11S	21E	1	0			<i>C</i>			No production, shut down. Well fraced.

NOTE.—There were no runs or sales of oil; no M cu. ft. of gas sold;

no runs or sales of gasoline during the month. (Write "no" where applicable.)

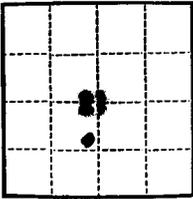
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

(SUBMIT IN TRIPLICATE)

Land Office **Salt Lake City**

Lease No. **USA-Utah 013011**

Unit **Customized Wash
Well No. 1**



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	X
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	X
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

July 24,....., 19**59**

Well No. **1 - Unit** is located **1500** ft. from **NS** line and **2130** ft. from **EW** line of sec. **21**

NE 1/4, Section 21..... **T. 11 S.**..... **R. 21 E.**..... **S.M.**

Customized Wash Unit..... **Utah County**..... **Utah**

The elevation of the derrick floor above sea level is **574** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

August 26, 1958

to

September 6, 1958 - perforated, tested & plugged and abandoned, in accordance with details shown in Supplemental Well History attached.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **Great Lakes Natural Gas Corporation**

Address **417 South Hill Street**

Los Angeles 13, California

By *Sidney M. Elliott*
Sidney M. Elliott
Title **Vice President**

GREAT LAKES NATURAL GAS CORPORATION
417 SOUTH HILL ST - SUITE 465
LOS ANGELES 13, CALIFORNIA

July 27, 1959

United States Department of the Interior
Geological Survey
457 Federal Building
Salt Lake City 1, Utah

ATTENTION: Mr. B. F. Russell, District Engineer

RE: Abandonment -
Cottonwood Wash Area
Unit Well No. 1
Wasatch County, Utah
USA - Utah Lease
No. 913811
Our File No. U-50

Gentlemen:

Our files indicate that we have previously submitted all of the well history materials hereafter referred to, but inasmuch as we find no final approval of the abandonment we have duplicated from our files, and enclose in triplicate, the following:

- 1) Report of Abandonment Form 9-331a.
- 2) Summary - Well Report, dated September 29, 1958.
- 3) Geologists' drilling reports May 2, 1958 to May 25, 1958 inclusive.
- 4) Geologists' sample description.
- 5) Log & History form 9-330 with sample description attached.

We also enclose in duplicate prints of logs as follows:

- 1) Electrical Log
- 2) Induction Electric Log
- 3) Micro Log

It will be greatly appreciated if you will approve and return at your early convenience a copy of the enclosed notice of abandonment. We enclose photocopy of Pease Brothers, Vernal, Utah invoice covering location cleanup and steel sign

C

O

P

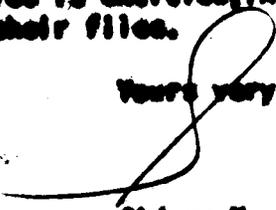
Y

4/1

U.S. Dept. of Interior
Geological Survey
July 27, 1939
Page 2

installation at the wellsite. We hope you will find all of this satisfactory, and that you will forward to the U.S.G.S. at Cooper such copy as copies of the enclosed materials to which that office is entitled, in order to complete our requirements in their files.

Yours very truly,


Sidney H. Elliott,
Vice President

SM:ch
Encls.

CC: G. H. Calhoun

C
O
P
Y

c/c - State of Utah
Oil & Gas Conservation
Commission
State Capitol Bldg.
Salt Lake City, Utah.

6961 2 30A

Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE SALT LAKE CITY
LEASE NUMBER USA Utah 0013811
UNIT Cottonwood Wash #1

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH County UINTAH Field COTTONWOOD WASH (Wildcat)

The following is a correct report of operations and production (including drilling and producing wells) for the month of July, 1959,

Agent's address 417 So. Hill St., Suite 465 Company GREAT LAKES NATURAL GAS CORPORATION

Los Angeles 13, California Signed Sidney M. Elliott

Phone Madison 6-9384 Agent's title Sidney M. Elliott, Vice Pres.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<u>NE 1/4 SW 1/4</u> <u>Sec. 21</u>	<u>11S</u>	<u>21E</u>	<u>1</u>	<u>0</u>						<u>No production, plug down.</u> well <u>Abandoned</u>

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

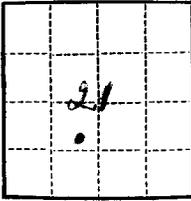
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

(SUBMIT IN TRIPLICATE)

Land Office **Salt Lake City**

Lease No. **USA-Utah 013011**

Unit **Cottonwood Wash Unit**
Well No. **1**



R. 21 E.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

211 H
8-11-59

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	<input checked="" type="checkbox"/>
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

John *e* August 3, 19 **59**

Well No. **1-Unit** is located **1580** ft. from **S** line and **2130** ft. from **W** line of sec. **21**

Section 21 **T. 11 S., R. 21 E.** **S.L.M.**
(¼ Sec. and Sec. No.) (Twp.) (Range) (Meridian)

Cottonwood Wash Unit **Wasatch County** **Utah**
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is **576** ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

~~SEE ATTACHED ALONG~~

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company **GREAT LAKES NATURAL GAS CORPORATION**

Address **417 South Hill Street**
Los Angeles 13, California

By *Sidney M. Elliott*
Sidney M. Elliott,
Title **Vice President**

CASING

Surface: 13 3/8 8 RT H40 Landed at 216' KB (204' Net pipe) Cemented with 185 sacks regular cement with 2% Calcium Chloride.

Production String 7', 23# SC J-55 Landed at 4864 KB (net pipe 4852) cemented with 500 sacks Halliburton Pozmix "A" cement with 2% gal. Bottom 4 Joints were tack welded. Eight Centralizers were used throughout cemented area. Baker Guide Shoe and Baker Automatic Fillup float collar used. Float collar is on top of 1st joint. Plug pumped down by Halliburton with 191 barrels mud. Pressured to 2000 psi. pressure held O.K. Released pressure to check float which also O.K. Re pressured to 1200 psi.

May 27: Top of cement at 3560' (KB).

August 26 & August 27: Perforated following zones:

Used Schlumberger 5' jet 4 holes ft. and Schlumberger

Bullets 4 per ft:

4722 - 4768

4622 - 4650

August 31: Swabbed -rigged up for squeeze. Squeezed 100 sacks regular cement. Squeeze pressure 3800#. Displaced cement plug in pipe. Top at 4688. Moved packer up hole above upper perfs and reset. Waited on cement to set in pipe below.

September 1: Swabbed zone 4622 - 4650. Recovered approximately 6 bbls. water (salty) per hour and small amount of gas. Broke down formation with Halliburton truck. Water increased considerably. Too much water for commercial gas well. Squeezed with 70 sacks regular cement with 3600# (surface) pressure. Left cement plug at 4581 (top).

September 2: Waited on cement to set and rigged up to drill cement down to 4700.

September 3: Perforated 4676 - 4689 Ran tubing and set packer. Pressured up to 5500 (surface) psi. Built up to 1000# in annulus, indicating Packer leaking or fluid going up between pipe and cement job above. Swabbed dry.

September 4: Perforated zone 4455 - 4469. 4 jets per foot by Schlumberger 5' gun. Ran packer, swabbed dry. Small amount of gas showing (enough for flare). Small amount of water. Pressured up on formation. Broke down at 2800 down to 1800. Released pressure and swabbed. Made salt water - not enough gas for

September 5: further testing. Prepared to squeeze. Squeezed 35 sacks regular cement into formation, pressure to 3500, held 30 min., reversed out. Top of cement plug approximately 4440.

September 6: Bolted steel plate on spool on casing, and U.S.G.S. approved sign erected at location. Well abandoned. No attempt made to recover any casing.

GREAT LAKES NATURAL GAS CORPORATION
417 SOUTH HILL ST - SUITE 465
LOS ANGELES 13, CALIFORNIA

August 4, 1959

United States Department of the
Interior
Oil & Gas Leasing Branch
Geological Survey
457 Federal Building
Salt Lake City 1, Utah

ATTENTION: Mr. D. F. Russell, District Engineer

RE: Notice of Abandonment
Form 9-331a
Cottonwood Wash
Unit Well No. 1
Uintah County, Utah

Gentlemen:

Pursuant to your request in letter
dated July 31, 1959, we enclose subject notice
in triplicate.

Yours very truly,

Sidney N. Elliott,
Vice President

SNE:cb

CCS: O. N. Calhoun
State of Utah, Conservation Commission

C
O
P
Y

20
1959



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Branch of Oil and Gas Operations
445 Federal Building
Salt Lake City 1, Utah

May 1, 1961

Subject: Cottonwood Wash Unit
Well #1, Utah-013811

Great Lakes Natural Gas Corporation
417 South Hill Street
Los Angeles 13, California

Attention: Mr. Sidney N. Elliott

Gentlemen:

We have made an inspection of the subject well site and are ready to approve your subsequent report of abandonment when submitted.

Very truly yours,

A handwritten signature in cursive script that reads "D. F. Russell".

D. F. Russell
District Engineer

DFR:ld

RECEIVED

MAY 2 1961

GREAT LAKES OIL & GAS CO.
LOS ANGELES

Dwyer

R-12

U.S. GEOLOGICAL SURVEY
BRANCH OF OIL & GAS OPERATIONS
SALT LAKE CITY, UTAH

July 10, 1961

C
O
P
Y

United States Department of
the Interior
Geological Survey
Branch of Oil & Gas Operations
445 Federal Building
Salt Lake City 1, Utah

ATTENTION: D. F. Russell, District Engineer

RE: Cottonwood Wash, Unit Well #1
Utah - 013811
Subsequent Report of FINAL ABANDONMENT
(Form 9-331a)

Gentlemen:

Pursuant to our recent correspondence, we enclose herewith seven copies of subject report for your approval, filing and/or forwarding to U.S.G.S. at Casper and such other offices as may be required.

We are, for reference, sending a copy of this letter and a copy of the report to the U.S.G.S., Attention Mr. H. C. Scoville, Casper, and also to the State of Utah, Department of Oil and Gas.

We will appreciate it greatly if, as and when the report is approved, a copy so signifying, be returned for our files.

Yours very truly,

Sidney N. Elliott, Vice President

SNE:cb
Encls.

- 1 copy - U.S.G.S., Casper, Atten: Scoville
- 1 " State of Utah, Oil & Gas Division, Salt Lake City
- 1 " O. N. Calhoun
- 1 " SNE file.

GREAT LAKES NATURAL GAS CORPORATION

MADISON 6-9384
417 SOUTH HILL STREET
LOS ANGELES 13, CALIFORNIA

July 27, 1961

The State of Utah
Oil & Gas Conservation Commission
310 Newhouse Building - 10 Exchange Place
Salt Lake City 11, Utah

ATTENTION: Ann W. Glines, Records Clerk

Gentlemen:

This is with reference to your letter of
June 20, 1961 requesting copies of logs run in connection
with the drilling of

Well No. Cottonwood Wash Unit 1,
Section 21, T. 11 S., R. 21 E.,
Uintah County, Utah.

Our files reflect that we have previously
forwarded copies of all the logs, but inasmuch as you
apparently do not have them in your files, we are again
enclosing copies as follows:

- 1) Reduction copy radiation log
- 2) Electric log
- 3) Microlog
- 4) Induction electrical log

In order that our files will be complete,
please acknowledge receipt of these enclosures on the carbon
copy of this letter, and return same to us.

Yours very truly,


Sidney N. Elliott, Vice President

SNE:cb
Encls.

RECEIPT OF ABOVE ENCLOSURES IS HEREBY ACKNOWLEDGED
THIS _____ DAY OF _____ 1961.

E. O. McLOTHLIN
Drawer 637
Hardin, Montana

SUPPLEMENTAL WELL HISTORY

GREAT LAKES NATURAL GAS CORPORATION

COTTONWOOD WASH UNIT

WELL NO. 1

Township 11 South Range 21 East

Section 21 (NE SW)

Uintah County, Utah

Elevation 5766 NB (5755 A.L.)

Spudded May 2, 1958

Total Depth 9047

CASING

Surface: 13 5/8 8 RT N49 Landed at 215' NB (204' Net pipe) Cemented with 185 sacks regular cement with 2% calcium chloride.

Production String: 7", 23 1/2 SC J-55 Landed at 4864 NB (net pipe 4852) cemented with 500 sacks Halliburton Pozzini 'A' cement with 2 1/2 gal. Bottom 4 joints were tack welded. Eight Centralizers were used throughout cemented area. Baker Guide Shoe and Baker Automatic Fillup float collar used. Float collar is on top of 1st joint. Plug pumped down by Halliburton with 191 barrels mud. Pressured to 3000 psi. pressure hold O.K. Released pressure to check float which also O.K. Re-pressured to 1200 psi shut in at 5:15 P.M.

- May 27 Ran temperature survey by McCullough Tool Company at 12:01 A.M.
Top of cement at 3960' (NB)
Set slips in head with 70,000 indicated weight on slips.
Released rig at 12 noon.
Further work suspended until August 23.
- August 23 Moving in and Rigging up (Dead man holes crew only)
- August 24 Moving in and Rigging up (Dead man holes crew only)
- August 25 Moving in and Rigging up (Dead man holes crew only)
- August 26 & August 27
Ran tubing in with bit to tag bottom and displace mud with lime water.
Ran Schlumberger Gamma Ray and Collar log. (Schlumberger ticket no. 24697)
Perforated following zones:
Used Schlumberger 5' Jet 4 holes ft. and Schlumberger Bullets 4 per ft:
4722 - 4768
4622 - 4660
- August 28 Refer to Schlumberger tickets No. 24698 and 24699
Attempt was made to run packer through top perfs to isolate upper zone. However burrs on inside of pipe prevented this.
- August 29 Ran scraper - racker would still not go.
- August 30 Ran scraper again and rotated. Went in with packer set between perfs. Hole dry. Broke down formation with Halliburton. This zone made about 5 barrels

black sulphur water per hour with small amount of gas. Not deemed advisable for further testing. Sample of this water was sent to Mr. Bob Jones in Copper for further study.

- August 31 Washed - Rigged up for squeeze. Squeezed 100 sacks regular cement. Squeeze pressure 3800#. Displaced cement plug in pipe. Top at 4688. Moved packer up hole above upper perfor and reset. Waited on cement to set in pipe below.
- September 1 Washed zone 4622 - 4650. Recovered approximately 6 bbls. water (salty) per hour and small amount of gas. Broke down formation with Halliburton truck. Water increased considerably. Too much water for commercial gas well. Squeezed with 70 sacks regular cement with 3600# (surface) pressure. Left cement plug at 4581 (top).
- September 2 Waited on cement to set and rigged up to drill cement down to 4700.
- September 3 Perforated 4676 - 4689. Ran tubing and set packer. Pressured up to 5500 (surface) psi. Built up to 1000# in annulus, indicating packer leaking or fluid going up between pipe and cement job above. Washed dry. Decided not to frac. Feared water.
- September 4 Perforated zone 4455 - 4469. 4 jets per foot by Schlumberger 5' gun. Ran packer, washed dry. Small amount of gas showing (enough for flora). Small amount of water. Pressured up on formation. Broke down at 2800 down to 1800. Released pressure and washed. Made salt water - not enough gas for
- September 5 further testing. Prepared to squeeze. Squeezed 35 sacks regular cement into formation, pressure to 3500, held 30 min., reversed out. Top of Cement plug approximately 4440. Started out of hole with packer laying down tubing. Lost packer in hole - went
- September 6 back in hole with overshot - picked up fish - came out of hole.

Bolted steel plate on spool on casing. Other equipment was hauled to Vernal to Pease Bros. yard. ~~Released 115.~~

Well capped and suspended pending further study.

E. G. McCLATHRIN
Hardin, Montana

September 29, 1958

E. O. McLOTLIN

Drawer 637

Hardin, Montana

047-10901

SUMMARY

SPECIAL NOTE: PLEASE READ ALL OF THE ATTACHED REPORT BEFORE
ATTEMPTING FURTHER OPERATION OF WELLS

The present cement top is at 3560.

There are no open perforations in pipe. All previous perforations have been squeezed. If cement plugs are drilled out the casing should be tested before drilling out since to be sure squeeze jobs are holding satisfactory.

Top of last cement plug is approximately 4440. (From 20 measurements or 11 ft. above ground level)

Well head equipment, tubing and other water well equipment is in Pease Bros. yard at Vernal, Utah.

E. O. McLOTLIN
Hardin, Montana

Sec 21-11S-21E

Well Name: Great Lakes Natural Gas
Cottonwood Wash Unit #1

Location: Township 11 South - Range 21 East
Section 21; NE SW
Uintah County, Utah

Commenced: May 2, 1958

Ceased Drlg: May 22, 1958

Casing: 13-3/8" 8rd, 48#, H-40, landed at 204' (216' KB)
with 185 sacks cement, 2% CaChloride
7" set at 4858' (G1) with 500 sacks cement

Drlg. Contr: Falcon-Seaboard Drilling Co.
Toolpusher: Floyd O. Story
Drillers: Carl Acres, A. N. Williams, Claude Payton

Type Rig: (MA-1) Unit "U-35", 2 Waukesha "GKU" and 1 Waukesha
"LRO" engines, 290 H. P. on hoist, 1-7-1/2x14 "HP 14,000"
Wheland pump, 131' L. C. Moore Mast

Daily Drilling Report

5-2-58 Rigging up - started drilling rat hole 5 p. m.

5-3-58 Finished drilling rat hole and mouse hole - started drilling
12-1/2" hole to 252' - reamed 12-1/2" to 17-1/2" hole - 225' -
started running 13-3/8" casing -

5-4-58 Ran 13-3/8" OD, 8rd, 48#, Youngstown emls casing, H-40,
ST&C, set at 204' with 185 sacks regular cement, 2% CaCl -
(216' KB) Circulated to surface, completed at 1:45 a. m. -
rigging up and nipping up - testing casing at 5 p. m. with
500# - all okay -

5-5-58 Mixing water and lime - started drilling at 8:30 a. m. -
stuck drill pipe at 314' - 11 a. m. - not enough air from
compressors to clean hole - would only give 125# - ran
1" and 2" pipe down beside drill pipe and regained circulation -
drill pipe came loose - started hole with 4 5-1/2" drill collars -

5-6-58 Finished fishing - started drilling with Jsl and mud -
drilling 314' - 560'

5-7-58 Drilling 560' - 815' - ran out of water - shut down waiting on
water -

5-8-58 Drilling 815' - 1160' - drilling with small amount of air and
mud - deviation jumped from 3/4 deg. to 2 deg. - needed
more drill collars - 3/4 deg. at 950' - 2 deg. at 1160'

5-9-58 Drilling 1160' - 1490' - holding up because of deviation -
2 deg. at 1215' - 3-1/2 deg. at 1450'

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Daily Drilling Report (contd)

5-10-58 Drilling 1490' - 1713' - picked up 10 6-1/16 drill collars - took a lot of time - 3-1/4 deg. at 1480' - 3 deg. at 1550' - 2-3/4 deg. at 1670' - decided to mud up for protection - no water as yet -

5-11-58 Drilling 1713' - 2016' - ran into water at approximately 2000' - lost some time - 3 deg. at 1750' - 2-1/2 deg. at 1810' - 3 deg. at 2000'

5-12-58 Drilling 2016' - 2303' - slowed down by water - deviation 3 deg. at 2060' - 2-1/4 deg. at 2245' -

5-13-58 Drilling 2303' - 2696' - first good day of drilling - deviation 2-1/4 deg. at 2380' - 1-1/4 deg. at 2598' -

5-14-58 Drilling 2696' - 3034' - drilling with 318 bbls. new water coming out of hole per hour - adding 6 - 8 sacks lime per hour - 1-3/4 deg. at 2690' - 1 deg. at 2780' - 1-1/2 deg. at 3000' -

5-15-58 Drilling 3034' - 3240' - trips taking a long time - 6 to 9 hours - deviation 1-1/4 deg. at 3090' -

5-16-58 Drilling 3240' - 3456' - 2 deg. at 3290' - 1-3/4 deg. at 3410' -

5-17-58 Drilling 3456' - 3704' - deviation 2 deg. at 3540' - 1-1/2 deg. at 3750' -

5-18-58 Drilling 3704' - 3931' - 1-1/2 deg. at 3750' -

5-19-58 Drilling 3931' - 4141' - 1-1/2 deg. at 4100' -

5-20-58 Drilling 4141' - 4550' - well drills good - takes 8 - 9 hours for trips -

5-21-58 Drilling 4550' - 4772' -

5-22-58 Drilling 4772' - 5047' - started conditioning hole after drilling to total depth - preparing to log -

5-23-58 Tried to log - had to condition hole -

5-24-58 Logging and conditioning hole -

5-25-58 Running 7" casing - set at 4858' (Gr.) with 500 sacks cement -

Total Depth - 5047'

Elevation - 5766' KB; 5755' Gl.

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Sample Description - Samples start at 750'

<u>From</u>	<u>To</u>	<u>Description</u>
750	770	Shale, light brown-buff, limy, micaceous, fossil fragments -
770	780	Shale, as above with abundant pyrite inclusions, conglomerate and clay -
780	820	Shale, gray-green, siliceous, abundant pyrite, limy -
820	830	Shale, gray-green, limy, interbedded conglomerate, clay and pyrite -
830	850	Shale as above with vugular calcite veins, heavy black oil in fractures - oil does not fluoresce -
850	880	Shale, as above, all shales have petroliferous appearance - variegated and limy -
880	920	Shale and clay, broken and interbedded -
920	950	Shale, limy with clay inclusions, very broken, oil in fractures -
950	970	As above with some conglomerate inclusions, oil in calcite fractures -
970	990	As above, chert, fractured shale, conglomerate -
990	1010	Interbedded shale, conglomerate, etc. - very broken -
1010	1060	Shale, brown, broken, chert - with interbedded conglomerate, pyrite -
1060	1100	Shale, variegated, dense, broken, abundant calcite filled fractures -
1100	1130	Shale as above, variegated, fractures calcite filled, oil staining throughout, abundant pyrite, oil heavy and possibly dead -
1130	1140	As above, conglomerate -
1140	1160	As above interbedded shale and limy shale, calcite veins - abundant pyrite -
1160	1190	Sand, brown, rounded unconsolidated, interbedded with shale, brown, petroliferous grading into brown petroliferous shale -
1190	1210	Sand, brown, fine-medium grain, abundant lime inclusions - good dead oil stain (?)
1210	1240	Shale, brown, limy, very petroliferous -
1240	1260	Shale as above becoming less petroliferous -
1260	1320	Shale as above becoming sandy with good oil stain, no cut -
1320	1380	Shale, brown, very limy, highly fractured with chert inclusions -
1380	1430	Shale as above with tan clay inclusions - broken shale and clay - calcareous inclusions - interbedded lime, shale, conglomerate -
1430	1450	As above, increase in shale - has petroliferous appearance -
1450	1460	As above, some dolomite, tan inclusions -
1460	1490	Shale, gray, very micaceous, abundant pyrite, silicified conglomerate -
1490	1500	Conglomerate, abundant free grains, pyrite, shale -

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Sample Description (2)

<u>From</u>	<u>To</u>	<u>Description</u>
1500	1520	Primarily shale, interbedded with clay, conglomerate -
1520	1540	Sand, medium grain, sub-angular, conglomeratic, yellow dolomite -
1540	1560	Sand as above, calcareous reef, crinoid stems - sand gray, fine grain - trace glauconite -
1560	1590	Sand, gray, fine grain, micaceous, pyrite - water -
1590	1620	Sand as above with brown sand grain accessories -
1620	1630	Shale, gray, limy in part -
1630	1640	Sand and shale as above -
1640	1700	Shale, bright green, dense - brown shale -
1700	1800	Shale, gray-green, minutely micaceous, dark brown oil stain - trace limestone - interbedded with calcareous sand - abundant pyrite -
1800	1810	As above with conglomeratic sand interbedded -
1810	1820	Sand, white, fine-medium grain, sub-angular, spotted stain, heavy black oil -
1820	1840	Limestone, tan, massive, soft with fractures, heavy black oil in fractures -
1840	1850	As above, vugular -
1850	1870	As above, becoming light cream, chalky - some heavy black oil staining -
1870	1880	Sand, gray, very fine grain, silty, micaceous, very little porosity -
1880	1890	As above with streaks fine grain, white angular fairly porous sand -
1890	1900	Limestone, tan, vugular, granular, very fossiliferous -
1900	1910	Sand, gray-white, conglomerate with abundant large well rounded sand grains -
1910	1920	Sand, gray, shaly, varicolored, dense, no porosity, dirty -
1920	1930	Sand as above, interbedded with sand white, clean, sharp, angular, very sparkly -
1930	1960	Sand, white, fine-medium grain, sub-angular, very porous with biotite flake inclusions -
1960	1970	As above grading into gray silty dirty, very micaceous sand -
1970	1990	Limestone, tan, soft, fossiliferous, vugular -
1990	2000	Sand, white, very fine grain with large well rounded grain inclusions, porous -
2000	2010	Limestone, tan, vugular with anhydrite inclusions -
2010	2040	Shale, dark gray, silty, micaceous -
2040	2060	As above with white fine grain sub-angular sand interbedded -

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Uintah County, Utah

Sample Description (3)

<u>From</u>	<u>To</u>	<u>Description</u>
2060	2080	As above with tan limestone, very fossiliferous, interbedded -
2080	2090	Sand, white, conglomeratic, spotted heavy oil stain -
2090	2110	As above grading into fine-medium grain, sub-angular sand -
2110	2140	Sand, white, fine grain, sub-angular, uniform, light spotted stain with green accessories -
2140	2160	Limestone, tan, vugular - spotted saturation, heavy black oil in samples -
2160	2180	Sand, white, very fine grain, uniform, spotted stain -
2180	2190	As above grading to light green sandy shale, very micaceous -
2190	2200	As above grading into light limestone, soft, very fossiliferous -
2200	2220	Sand, white, very fine grain, well sorted, porous with calcareous cement - some spotted stain -
2220	2230	As above with very fossiliferous limestone re-entering -
2230	2260	Sand as above - staining better, still spotted -
2260	2280	Limestone re-entrant -
2280	2320	Sand, white, well sorted, spotted stain, dead oil -
2320	2340	Shale, gray-green, very micaceous, slightly silty -
2340	2360	As above, abundant dark brown oil shales -
2360	2370	Shale as above becoming very silty to sandy -
2370	2400	Sandstone, white, very fine grain with biotite inclusions - tight -
2400	2420	Sandstone, white-light green, fine-very fine grain, friable with biotite inclusions and pyrite inclusions -
2420	2450	Sandstone as above, shale, light brown-green, calcareous - trace dark brown oil shales -
2450	2480	Limestone, light tan, dense - sandstone as above -
2480	2490	Shale, dark brown oil shale - sandstone, gray, very fine grain, micaceous -
2490	2500	Limestone, white-gray, soft, fossiliferous -
2500	2510	As above - trace chert -
2510	2520	As above - becoming sandy -
2520	2540	Sand, white, fine grain, friable with spotted dead oil stain -
2540	2560	Shale, dark gray-brown, trace oil stain - sandstone as above -
2560	2570	Shale, white-brown oil shales -
2570	2580	Sandstone, very fine grain, white, well rounded, medium grains interbedded -
2580	2600	Shale, variegated, interbedded with white, fine grain sandstone -
2600	2620	Sandstone, white, very fine grain, quartzitic, friable -
2620	2670	As above with few spots dead oil stain, few fossils -
2670	2680	Sandstone as above, siltstone, light gray, red, calcareous -
2680	2690	As above becoming very fine grain, micaceous, variegated shale to silty shale -

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Sample Description (4)

<u>From</u>	<u>To</u>	<u>Description</u>
2690	2720	Shale, dark gray-brown, oil stain -
2720	2730	Sandstone, white, very fine grain, well cemented, trace with cut and fluorescence - very little porosity -
2730	2750	Sandstone as above - very silty -
2750	2770	Sandstone, white-brown, unconsolidated, very fine grain with abundant varicolored grains -
2770	2780	Shale, dark brown, dense, biotite, very limy -
2780	2790	Sandstone, white-brown, fine-medium grain, sub-angular, porous -
2790	2820	Sandstone, as above, interbedded with gray siltstone, tight, pyrite -
2820	2890	Shale, gray, silty, very micaceous -
2850	2860	Shale, light brown, petroliferous, micaceous -
2860	2870	As above grading into brittle shale - pyrite - somewhat limy -
2870	2880	As above - brown oil shale, poor fluorescence, no cut -
2880	2890	Limestone, white-cream, soft, massive -
2890	2920	Sandstone, white, medium grain, sub-angular, very porous, quartzitic, sparkly with micaceous and pyrite inclusions -
2920	2930	As above grading into siltstone -
2930	2980	Shale, brown-tan, oil shales interbedded, gray siltstone -
2980	2990	As above with gray-green shale -
2990	3020	Sandstone, light tan, porous to tight, friable sandstone with fair fluorescence and good cut - best looking show -
3020	3030	Sandstone, very unconsolidated, friable -
3030	3040	Shale, dark brown oil shales - sandstone as above -
3040	3050	Sandstone as above -
3050	3060	Sandstone as above, shale, brown, trace tan limestone -
3060	3080	Limestone, tan, soft, dense, abundant fossils -
3080	3090	Sandstone and shale as above -
3090	3110	As above, mostly sandstone -
3110	3130	Shale, dark brown-buff, micaceous, petroliferous - trace oil stained limestone -
3130	3140	Sandstone, tan, conglomeratic with tan kaolin matrix -
3140	3160	Shale, dark brown, petroliferous, very limy with calcite filled fractures -
3160	3180	Shale, gray, silty, very micaceous -
3180	3190	As above grading into brown petroliferous shale -
3190	3210	Sandstone, white, unconsolidated, angular, clear quartz inclusions with dead (?) oil staining -
3210	3220	Sandstone, becoming silty, interbedded with dark brown oil shale -

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Sample Description (5)

<u>From</u>	<u>To</u>	<u>Description</u>
3220	3240	Limestone, light tan, soft - sandstone as above -
3240	3270	Sandstone, light brown, silty, light oil stain grading into shale, dark brown, silty, petroliferous, interbedded as above -
3270	3280	Limestone, tan, vugular, marly, soft -
3280	3300	Sandstone, white, quartzitic with abundant varicolored accessories, becoming unconsolidated and friable -
3300	3310	Shale, gray-brown, micaceous, trace phosphatic pebbles -
3310	3330	Limestone, tan, soft, vugular, spotted saturation, fossiliferous - grading into gray-brown shales -
3330	3370	Shale, dark brown oil shales, very petroliferous with 20% sandstone conglomerate, tan, abundant lime inclusions -
3370	3390	Shale, red, green, gray, micaceous, slightly silty -
3390	3400	Shale, red, sandstone 80%, white quartzitic, with pyrite and biotite inclusions -
3400	3410	Sandstone decreasing -
3410	3440	Shale, varicolored -
3440	3460	Shale as above, sandstone , white, very fine grain, well cemented with calcareous cement -
3460	3530	Shale, red and green, as above -
3530	3560	Shale as above, sandstone, white, very fine grain, sub-angular, tight -
3560	3570	Shale as above, sandstone 15%, white, clean, very fine grain, unconsolidated -
3570	3580	Limestone, tan, marly, fossiliferous, sand and shale as above -
3580	3590	Sandstone and shale as above -
3590	3600	Sandstone with black quartz grain inclusions - shale as above -
3600	3620	Sandstone, white, very fine-medium grain, poorly sorted, fairly well cemented -
3620	3650	Shale, red and green, variegated, micaceous, slightly silty -
3650	3660	As above - trace brown limy shale with dark oil stain -
3660	3680	Limestone, dark brown, fair saturation - dark brown oil shales - grading into red and green limy shales, no show -
3680	3700	Limestone, tan, fossiliferous, soft - shale as above -
3700	3750	Limestone and red limy shale interbedded, abundant pyrite and chert inclusions -
3750	3770	Shale, bright red, variegated, sandstone, buff, very fine grain, dirty, slight stain - interbedded limestone and red variegated shale, abundant pyrite -
3770	3790	As above with phosphatic nodules -
3790	3820	Shale, variegated -

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Sample Description (6)

<u>From</u>	<u>To</u>	<u>Description</u>
3820	3840	As above - trace sand, white, very fine grain, angular, tight -
<u>Sample top - WASATCH 3840'</u>		
3840	3870	Shale, red, micaceous, silty - sandy -
3870	3980	Shale as above, becoming sub-waxy -
3980	4030	As above - sandstone, gray-tan, fine-medium fine, tight, abundant varicolored accessories -
4030	4060	Shale as above, sandstone, white-pink, very fine-medium fine, sub-angular, some porosity, sandstone interbedded, lenticular -
4060	4100	Shale increasing - sandstone decreasing -
4100	4150	Shale, red-pink, micaceous, arenaceous, varicolored -
4150	4230	Shale, red, variegated, sub-waxy to silty -
4230	4330	Shale as above with thin streaks sand, buff, some porosity - light stain -
4330	4360	Shale as above becoming more sandy -
4360	4390	Sand, white, quartzitic, angular with abundant varicolored accessories, fair porosity -
4390	4430	Sand, white, fine-medium grain, sub-rounded, quartzitic, friable, good porosity -
4430	4450	Some shale, interbedded, mostly sand -
4450	4470	Sand as above, shale red, minutely micaceous -
4470	4480	Shale, red, variegated, sub-silty -
4480	4490	Sand, white, fine grain, friable, quartzitic, sparkly, trace stain -
4490	4500	Sand appears interbedded with shale as above -
4500	4550	Sand, white, fine-medium grain, very porous, quartzitic, sub-angular -
4550	4570	Shale, variegated, pyrite -
4570	4650	Shale as above, some sand, tan, tight, abundant variegated accessories -
4650	4670	Sand, white, fine-medium grain, sub-angular, porous, light stain -
4670	4730	Shale, variegated, minutely micaceous -
4730	4760	Sand, white, fine-medium grain, porous, friable, pyritic inclusions -
4760	4790	Sand, white, friable, unconsolidated, frosted, varicolored accessories, becoming fine grain, silty -
4790	4830	Shale, varicolored, sand as above, cavings -

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Sample Description (7)

<u>From</u>	<u>To</u>	<u>Description</u>
4830	4850	Shale as above, thin streaks sand, white, medium grain to silty -
4850	4870	Shale, red to variegated, minutely micaceous -
4870	4950	Shale as above with large well rounded sand grains interbedded -
4950	4970	Sand, white-pink, very fine grain-medium grain, unconsolidated, calcareous cemented -
4970	4980	As above grading into red silty shale -
4980	5020	Shale, red, varicolored, sub-waxy -
5020	5047	Shale as above, sand - cavings (?)

TOTAL DEPTH 5047'

Great Lakes Natural Gas
Cottonwood Wash Unit #1

Bit Record

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Serial</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>	<u>Wt. 1000 #</u>	<u>RPM</u>	<u>Dev.</u>	<u>Pump Press.</u>	<u>Remarks</u>
					0							
1	12-1/4	HTC	OSC	Rerun	131	131	17	All	120	1/4	250	Rerun
2	"	"	OSC-3	1632	254	123	11-1/2	"	"	"	"	Dull
3	9"	"	"	35462	530	276	12	12	"	"	"	"
4	"	"	"	39030	794	264	15	15	"	3/4	400	"
5	"	"	"	85051	1157	363	19-1/2	"	"	2	300	"
6	"	Reed	YT	Y89826	1467	310	14-3/4	"	"	"	"	"
7	"	"	"	Y64218	1713	246	13	"	"	2-3/4	400	"
8	"	HTC	OWV	57209	2108	395	25-1/2	"	"	3	"	"
9	"	"	"	63965	2565	457	24	20	100	2-1/4	"	"
10	"	"	"	95645	3117	552	31	20/30	"	1-1/2	"	"
11	"	"	"	47021	3343	226	15-3/4	20	95	2	"	"
12	"	"	"	64065	3679	333	20	25	"	1-3/4	"	"
13	"	"	"	55728	3808	139	13-3/4	"	"	1-1/2	350	"
14	"	"	OSC-1-g	38195	4287	479	28-1/4	"	80	"	"	"
15	"	"	"	37544	4556	269	12-3/4	"	"	"	"	"
16	"	"	OWV	63775	4772	216	13-1/2	"	"	"	450	"
17	"	"	OSC-1-g	53223	5045	273	TD	"	"	"	400	"

Note:

Runs #1 & #2 - water

Runs #3 - #17 incl. - lime water