GL01541

ECU 428

			°C/min
(1)	6550 139°F	$T_7 = \frac{5.9}{7.0}(139-51)+51 =$ 125°F	20.6
(2)	9812 172°	$T_7 = \frac{6.0}{7.0}(172-51)+51 =$ 155°F	19.3

ECU 428

L-log started about 350' minutes

			sh	ss	ls		
700	350	– 700	40	60	—	7.6	5320
100	700	– 800		30	70	7.9	790
400	800	– 1200	70	20	10	5.5	2200
300	12	– 15 00	70	15	15	5.4	1620
300	1500	– 1600	50	10	40	5.8	1740
500	1800	– 2300	50	10	40	5.8	2900
300	2300	– 2600	45	45	10	7.0	2100
400	2600	– 3000	60	20	10	5.1	2040
200	3000	– 3200	60	40	—	6.4	1280
500	3200	– 3700	80	10	10	4.9	2450
200	3700	– 3900	15	80	5	9.0	1800
200	3900	– 4100	80	15	5	5.0	1000
500	4100	4600	90	10	—	4.6	2300
400	4600	– 5000	70	30	—	5.8	2320
300	5000	– 5300	65	35	—	6.1	1830
700	5300	– 6000	80	20	—	5.2	3640
300	6000	– 6300	75	25	—	5.5	1650
	6300	– 6550	50	50	—	7.0	1750
300	6500	– 7000	65	20	15	5.6	2800
500	7000	– 7500	45	55	—	7.3	3650
500	7500	– 8000	60	40		6.4	3200
500	8000	– 8500	45	55		7.3	3650
500	8500	– 9000	80	20		5.2	2600
500	9000	– 9500	70	30		5.8	2900
328	9500	– 9828	80	20		5.2	1706
							59236

300 / 250 BHT 131°F / 6550

BHT

To first BHT k_e = 5.9 @ 6550'

T 2nd BHT k_e = 6.0 @ 9812'

Schlumberger

DUAL INDUCTION LATEROLOG
WITH LINEAR CORRELATION LOG

COUNTY UINTAH
FIELD or LOCATION WILDCAT
WELL NATURAL NO. 1-7
COMPANY PACIFIC GAS TRANSMISSION COMPANY

COMPANY PACIFIC GAS TRANSMISSION COMPANY

WELL NATURAL NO. 1-7

FIELD WILDCAT

COUNTY UINTAH STATE UTAH

Location: NW NE 1571 FEL & 1168 FNL
Sec. 7 Twp. 11S Rge. 21E 2

Other Services:
BHC/GR
FDC/GR 2
CNL/GR 928

Permanent Datum: G.L. ; Elev.: 5534
Log Measured From K.B. , 18 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 5552
D.F. ----
G.L. 5534

Date	3-4-73	4-7-73		
Run No.	ONE	TWO		
Depth—Driller	6550	9828		
Depth—Logger	6556	9818		
Btm. Log Interval	6550	9812		
Top Log Interval	354	6556		
Casing—Driller	13-3/8 @ 357	9-5/8 @ 6559	@	@
Casing—Logger	354	6556		
Bit Size	12-1/4	8-1/2		
Type Fluid in Hole	F.G.M.	CHEM GEL 8550 PPM SALT		
Fluid Level	FULL	FULL		
Dens. / Visc.	9.7 / 38	9.5 / 39	/	/
pH / Fluid Loss	7.5 / 5.6 ml	7.5 / 5.2 ml	/ ml	/ ml
Source of Sample	MUDPIT	SUPPLIED		
R_m @ Meas. Temp.	0.25 @ 69 °F	0.37 @ 75 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	0.34 @ 69 °F	0.38 @ 75 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	0.26 @ 69 °F	0.50 @ 75 °F	@ °F	@ °F
Source: R_{mf} / R_{mc}	M / C	M / C	/	/
R_m @ BHT	0.12 @ 139 °F	0.16 @ 172 °F	@ °F	@ °F
Time Since Circ.	5 HOURS	8 HOURS		
Max. Rec. Temp.	139 °F	172 °F	°F	°F
Equip. / Location	5642 VERNAL	7674 VERNAL	/	/
Recorded By	LANGLEY	DANTI		
Witnessed By	FRY	FRY		

SCHLUMBERGER WELL SERVICING CORPORATION

HOUSTON, TEXAS

SCHLUMBERGER

Induction-Electrical Log

COUNTY UINTAH
FIELD or LOCATION SEC. 5-13S-20E
WELL BYLLESBY #2
COMPANY H.M. BYLLESBY & COMPANY

COMPANY H.M. BYLLESBY & COMPANY
WELL BYLLESBY #2
FIELD WILDCAT
LOCATION SEC. 5-13S-20E // NW NE SW
COUNTY UINTAH
STATE UTAH

Other Surveys
ML GRN SG SGR

Location of Well

(2)

Elevation: D.F.:
K.B.: 6163
or G.L.: 6154

FILING No. 453

RUN No.	ONE	TWO	THREE	FOUR		
Date	11-27-60	12-7-60	1-11-61	1-30-61		
First Reading	5196 22.3	5984 23.8	7792 22.2	8516 22.0		
Last Reading	280	4996	5984	7792		
Feet Measured	4916	988	1808	724		
Csg. Schlum.	280	-	-	-		
Csg. Driller	278	-	278	278		
Depth Reached	5202	5990	7798	8522		
Bottom Driller	5202	5990	7791	8514		
Depth Datum	K.B.	K.B.	K.B.	K.B.		
Mud Nat.	LIME EMUL	LIME EMUL	LIME EMUL	LIME EMUL		
Dens. | Visc.	9.7 | 48	9.7 | 44	9.8 | 65	9.9 | 76		
Mud Resist.	2.6 @ 80°F	1.6 @ 70°F	1.5 @ 65°F	1.52 @ 75°F	@	°F
" Res. BHT	1.5 @ 140°F	091 @ 123°F	0.7 @ 140°F	.76 @ 148°F	@	°F
Rmf M	1.5 @ 80°F	084 @ 70°F	1.3 @ 65°F	1.48 @ 68°F	@	°F
Rmc M	2.7 @ 80°F	2.6 @ 70°F	1.4 @ 65°F	2.10 @ 68°F	@	°F
" pH	12 @ °F	12.5 @ - °F	12.5 @ °F	12.5 @ °F	@	°F
" Wtr. Loss	2.9 CC 30 min.	1.6 CC 30 min.	1.4 CC 30 min.	1.8 CC 30 min.		CC 30 min.
Bit Size	8 3/4"	8 3/4"	8 3/4"	8 3/4"		
Spcgs.—AM	16"	16"	16"	16"		
MN	27'2"	27'2"	27'2"	27'2"		
IND	5FF40	5FF40	5FF40	5FF40		
Opr. Rig Time	2 HRS.	2 HRS.	2 HRS.	1 HR.		
Truck No.	1517 VNL	1517 VNL	1517 VNL	1517 VNL		
Recorded By	ZIVLEY	ZIVLEY	DANIELS	LANGILL		
Witness	COVINGTON	COVINGTON	COVINGTON	COVINGTON		

453

Assume heat flow constant

$$HF = k \frac{\partial T}{\partial z}$$

and $\frac{\partial T}{\partial z} = \frac{T - T_0}{d}$

$$HF = k_e \frac{T_M - T_0}{d} = k_7 \left(\frac{T_7 - T_0}{d} \right)$$

$$k_e (T_M - T_0) = k_7 (T_7 - T_0)$$

$$\frac{k_e}{k_7} (T_M - T_0) + T_0 = T_7$$

				°F/1000
5196	(1)	$\frac{6.2}{7.0}(140-51)+51 = T_7$	$= 129°F$	15.0
5984	(2)	$\frac{6.2}{7.0}(123-51)+51 = T_7$	$= 115°F$	10.6
7792	(3)	$\frac{6.4}{7}(140-51)+51 = T_7$	$= 132°F$	10.4
8516	(4)	$\frac{6.9}{7}(148-51)+51 = T_7$	$= 147°F$	11.3

av 11.8

21.5°C/km

	0 - 2762	Green River	6.9
	2762 - 3356	wasatch	5.0
	3356 - 3613	wasatch (chapita)	6.4
5196 → ①	3613 - 5580	Paleocene	5.3
5984 → ②	5580 - 7710	Mesaverde	7.0
7792 → ③	7710 - 8006	Castlegate	8.0
8516 → ④	8006 - 8514	Mancos (Emery)	5.5

BHT ① 140

2762'	at	6.9	19058
594'	at	5.0	2970
257	at	6.4	1645
1583	at	5.3	8390
5196			32063 6.2

BHT ② 123

2762	at	6.9	19058
594	at	5.0	2970
257	at	6.4	1645
1967	at	5.3	10425
404	at	7.0	2828
5984			36926 6.2

BHT ③ 140

2762	at	6.9	19058
594		5.0	2970
257		6.4	1645
1967	at	5.3	10425
2130	at	7.0	14910
82	at	8.0	656
7792			49664 6.4

BHT ④ 148

2762	6.9	19058
594	5.0	2970
257	6.4	1645
1967	5.3	10425
2130	7.0	14910
296	8.0	7408
508	5.5	2540
8514		58956 6.9

ECU 453

Sec 5, T 13S - R 20E

GREEN RIVER AT SURFACE

BEGAN LOGGING 280'

	THICKNESS	% sh	% ss	% Carb	% Coal Lig.	k_e	
GREEN RIVER (BOTTOM)	2482	39	37	24		6.9	
WASATCH	594	80	15	5		5.0	5.4
CHAPITA ZONE (wasatch)	257	60	40	0		6.4	
PALEOCENE (NORTH HORN?)	1967	78	20	2		5.3	✓
MESAVERDE	2130	49	49	0	2	7.0	✓
CASTLEGATE	296	30	60	0	10	8.0	
MANCOS (TOP EMERY SS NOT TYPICAL)	508	75	25	—	—	5.5	

TD 8514 IN MANCOS

2130	7.0	1491.0
296	8.0	2368
508	5.5	2794
2934		6.8

BHTs

140 @ 5196	k_e = 6.2	
123 @ 5984	6.2	
140 @ 7792	6.4	
148 @ 8516	6.9	

	k_e
sh	4
ss	10
ls	7
coal	neutral

453

H. M. BYLLESBY AND COMPANY, INC.

WELL HISTORY

H. M. BYLLESBY #2

June 29, 1961
D.E.A. Johnson

Location:	NE SW, 2080 NSL 1920 EWL, Sec. 5 T13S R20E SLM, Uintah County, Utah.		
Elevation:	Ground: 6154	KB:	6163
Spud Date:	10/24/60	Rotary Rlsd:	2/1/61
Contrctr:	Miracle & Wooster Drlg.Co.	Rig:	U-15 Drwks
Cmpltn Strtd:	4/1361	Unit Rlsd:	6/12/61
Contractor:	Hegwer Drlg. Co.	Unit:	U-34 Drwks
TD:	8514	PBD:	8398 (Float Collar)
IPF:		Format'n:	Mesaverde Emery (?)

Casing: Surface: 10 jts 295.77' 13-3/8" 48# H-40 @ 278 KB w 200 sax reg.

Product'n: 265 jts 8438.66' 7" 26# & 23# N-80 @ 8437 KB w 1200 sax 50-50 pos.

Tubing: 260 jts 2-7/8" 6.50# J-55 EUE @ 8166 KB w Model "R" pkr @ 5897 & sliding sleeve @ 5894.

Perforated Zones:	Stimulation Treatments:
Emery (?)	
8188-8194	Would not breakdown @ 6000 psi
8096-8120	8000 gal Petrojel, 6,000# sand (Screened out)
8188-8194 8096-8120	15,000 Gal Petrojel, 4,000# sand, 1100# Hulls
Mesaverde	
5792-5810	22,000 gal Petrojel, 10,000# sand, 1000# Hulls
5754-5767	22,000 gal Petrojel, 10,000# sand, 1000# Hulls
5877-5878(Jet nothes) 5847-5848 " " 5800-5801 " "	32,000 gal Petrojel, 20,000# sand, 1450# Hulls
5877-5878	25,000 gal Salt Water, 9000# sand, 2000# Hulls

FORMATION TOPS:

	DEPTH	DATUM	THICKNESS
Green River	Surface	- -	2762
Wasatch	2762	+ 3401	851
Chapita Zone	3356	2807	257
Paleocene	3613	2550	1967
Mesaverde	5580	+ 583	2426
Castlegate	7710	- 1547	282
Mancos	8006	1843	- -
Emery (?)	8074	- 1911	- -
T. D.	8514	- -	- -

Schlumberger

COMPENSATED NEUTRON FORMATION DENSITY

COUNTY UINTAH
FIELD or LOCATION WILDCAT
WELL SOUTH EAST FLANK NO. 1-28
COMPANY CHORNEY OIL CO.

COMPANY CHORNEY OIL COMPANY (3)

WELL SOUTH EAST FLANK NO. 1-28

FIELD WILDCAT

COUNTY UINTAH STATE UTAH

Location:
SW SW
Sec. 28 Twp. 15S Rge. 22E

Other Services:
DIL
BHC-GR
513

Permanent Datum: G.L. ; Elev.: 7493
Log Measured From K.B., 11 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 7504
D.F. ---
G.L. 7493

Date	7-24-72	7-24-72	8-4-72
Run No.	ONE	ONE	TWO
Type Log	---	THERMAL	EPI-NEUTRON
Depth—Driller	9600	9600	10018
Depth—Logger	9602	9602	10020
Bottom logged interval	9601 23.2	9601	10017 23.8
Top logged interval	1500	1500	9596
Type fluid in hole	FGM	FGM	FGM
Salinity, PPM Cl.	200	200	200
Density	9.1/38-8.5/7.2	8	9.1
Level	FULL	FULL	FULL
Max rec. temp., deg F.	6 HOURS	6 HOURS	3 HOURS
Operating rig time	173 DEGREES F	173 DEGREES F	182 DEGREES
Recorded by	FARR	FARR	DANTI
Witnessed by	LOCKHART & STREET	LOCKHART & STREET	COX & LOCKHART

RUN No.	BORE-HOLE RECORD Bit	From	To	CASING RECORD Size	Wgt.	From	To
ONE	7-7/8	703	9600	13-3/8	---	SURFACE	512
	12-1/4	512	703	---	---	---	---
TWO	7-7/8	CSG	10018	13-3/8	---	SURFACE	512

ECU 513

formations not in order on log surface, Green River, began logging at 500'

		sh	ss	ls	ke	
500	500 — 1000	60	20	20	5.8	2900
1000	1000 — 2000	45	35	20	6.7	6700
1000	2000 — 3000	60	40		6.4	6400
1000	3000 — 4000	60	40		6.4	6400
1000	4000 — 5000	75	25		5.5	5500
1000	5000 — 6000	100			4.0	4000
1000	6000 — 7000	100			4.0	4000
1000	7000 — 8000	100			4.0	4000
1000	8000 — 9000	100			4.0	4000
600	9000 — 9600	70	30		5.8	3480
400	9600 — 10000	35	60	5	7.8	3120
9500						50500

BHT

5.2

5.3

173° @ 9601 $k_e = 5.2$

182 @ 10017 $k_e = 5.3$

CHORNEY 1-28

513

DO NOT USE FORMATION BOUNDARIES

SAMPLE DESCRIPTION

Samples taken by rig crew. Sample intervals: 30' samples-500' to 3000', 20' samples-3000' to 4800', 10' samples-4800' to 9600' and 5' samples 9600' to 10018'. Sample descriptions corrected to drilling depth.

512-555	Limestone, tan to brown, fossiliferous grading to very fossiliferous. Sandstone, tan, fine-grained, calcareous cement, limestone and sandstone with black, flaky oil residue, gold fluorescence and blue cut. Limestone, green, part slightly fossiliferous, dense, argillaceous, grading to green, very calcareous shale.
555-575	Sandstone, white, very fine to fine grained, part with abundant micro-fossils, trace slightly glauconitic, calcareous, 90% hard no porosity, 10% fair to good porosity with black flake oil residue, gold fluorescence, blue-white cut. Shale, green, hard, sandy, calcareous, part with abundant tan, oval to round micro-fossils. Limestone, tan to brown bioclastic, oolitic, sandy matrix grading to tan very fossiliferous sandstone.
575-765	Sandstone, clear, predominately fine grained, some very fine grained, micro-pyritic, slightly glauconitic, trace with orange chert, friable to unconsolidated, good porosity, no show.
765-795	Shale, green, red, red-brown, with grey-green mottling all non-calcareous, part very pyritic, sandy, hard, minor amount of grey, sandy, calcareous, firm grading to argillaceous sandstone.
795-895	Sandstone, clear to white, very fine to fine grained, slightly pyritic, micaceous, trace tan micro-fossils, friable, good porosity, no show.
895-930	Limestone, tan ostracodal, oolitic, pseudo-oolitic, loosely cemented, good porosity, no show. Shale 10%, grey, calcareous, silty,
930-960	Sandstone, 50%, white, very fine grained, slightly glauconitic, silty, calcareous, friable, poor porosity, no show. Shale, grey, grey-green, silty, calcareous and red-brown, silty, very slightly calcareous, slightly pyritic, platy hard.
960-985	Shale, red-brown as above.
985-1010	Sandstone, white, very fine-grained, silty, scattered brown grains, calcareous, firm to hard, very poor porosity, no show.
1010-1040	Shale light grey, very silty, slightly sandy, calcareous, firm.

1040-1090	Sandstone, white, very fine grained, grading to siltstone, firm, calcareous; minor amount, Limestone, tan, micritic, dense.
1090-1135	Shale red-brown, green mottled, slightly silty, slightly calcareous.
1135-1210	Sandstone 70%, white, very fine grained, very silty, calcareous, friable, poor porosity, no show. Limestone, 30%, tan, ostracodal, micritic matrix, dense.
1210-1230	Sandstone, 100%, as above.
1230-1255	Shale, red, slightly calcareous fissile, firm. Minor amount grey-green, calcareous, silty.
1255-1295	Sandstone, clear, very fine to fine-grained, pyritic, calcareous clay cement, friable to unconsolidated, good porosity, no show.
1295-1305	Limestone, tan, light grey, part oolitic, fossiliferous, dense.
1305-1355	Sandstone, clear, very fine-grained, very silty, friable to unconsolidated, slightly calcareous, poor porosity, abundant fine to medium grained unconsolidated, no show.
1355-1390	Limestone 80%, as above with very abundant grey ostracods. Siltstone, 20%, light grey, firm, calcareous.
1390-1415	Sandstone, white, very fine grained, calcareous, pyritic, poor porosity, no show.
1415-1475	Limestone, tan, ostracodal part oolitic, poor porosity, no show. Minor amount sandstone, clear, very fine-grained, oolitic, ostracodal, poor porosity, no show.
1475-1500	Limestone, as above. Shale, 20%, green,red, brown, grey, part non-calcareous, hard.
1500-1565	Limestone as above. Sandstone, clear to tan, fossiliferous, as above.
1565-1585	Shale, red, yellow, non-calcareous, light grey, tan, silty, sandy, calcareous. Minor amount sandstone and limestone.
1585-1715	Sandstone, 60%, white, very fine to fine-grained, silty, occasional micro-fossil, poor sorted, part pyritic, calcareous, very poor porosity; grading to siltstone, Shale varigated, as above.

1715-1800 Limestone, dark brown, tan, grey, silty, argillaceous, part fossiliferous, part oolitic, dense. Siltstone, grey, tan, white, very calcareous, argillaceous, hard. Sandstone, grey, white, very fine to fine grained, part very silty, trace with fossil fragments, poor porosity, no show. Shale grey, tan, brown, silty, calcareous.

1800-1820 Sandstone, light grey, very fine to fine-grained, part silty, calcareous, hard, no porosity, no show.

1820-1850 Sandstone, white, very fine to medium grained, poorly sorted, abundant black and brown chert grains, calcareous cement, hard, no porosity, no show. Shale predominately grey to green, very silty, calcareous, hard. Trace shale, red, silty, non-calcareous soft, dissolving in mud.

1855-1900 Shale, red, soft, silty, non-calcareous to slightly calcareous, dissolving in mud. Sandstone as above.

1900-2000 Shale red, as above, becoming part marroon. Sandstone, buff, to white, very fine to fine grained, very silty, abundant shell fragments, calcareous clay filled, friable to hard, no porosity, no show. Trace siltstone and sandstone, marroon very argillaceous.

2000-2080 Sandstone, 50%, white, very fine to fine grained, part very silty, grading to siltstone, 20%, abundant black and orange grains, calcareous friable to hard clay cement. No porosity, no show. Shale 30%, red, as above.

2080-2146 Sandstone white buff, very fine to fine grained, occasional chert grains, sub round, calcareous poor porosity, no show.

TOP WASATCH 2146' (+5358)

2146-2230 Shale, red, brown, slightly silty, soft to firm. Siltstone, light grey, light orange, firm, sandy, slightly calcareous, grading to sandstone.

2230-2320 Sandstone white very fine to medium grained, poor porosity, no show. Minor amount shale, red, brown, green, yellow. Trace siltstone.

2320-2360 Shale, varigated, red, brown, lavender, yellow, green, marroon.

2360-2430 Shale as above, with interbeds of sandstone, light grey, very fine to fine grained, soft to firm, clay cement, poor porosity, no show.

2430-2490 Sandstone, as above, grading to siltstone.

2490-2560 Shale, green, grey, red, brown, trace yellow and purple part silty, soft to firm. Minor amount sandstone clear, very fine grained, silty, friable, poor porosity, No show.

2560-2600 Sandstone, white, very fine grained, fair sorting, abundant black and orange chert grains, predominately calcareous, clay-filled, part with poor porosity, no show.

2600-2910 Shale varigated, becoming predominately red to @2815 becoming predominately green to grey-green, part silty, part waxy, predominately calcareous. Minor amount interbedded sandstone, light grey, very fine grained, silty, argillaceous, slightly micaceous, glauconitic, scattered black grains, very calcareous, hard, no porosity, no show. Occasional trace limestone.

TOP MESA VERDE @2881' (+4623)

2910-3000 Sandstone, green to grey green, very fine to fine grained, silty, poorly sorted, very argillaceous, scattered black grains, firm, becoming white, less argillaceous at 2960'. Shale varigated, as above.

3000-3260 Shale varigated as above. Occasional thin sandstone, as above, becoming pyritic, grading to siltstone. Occasional thin limestone, part brown micritic, part white to cream, chalky.

3260-3280 Sandstone, white, very fine grained, poorly sorted, abundant black grains, clay-filled, poor porosity, no show. Shale varigated, as above, abundant dark brown, fissile, carbonaceous.

3280-3580 Sandstone, clear, white, fine to medium grained, abundant black grains, friable, to unconsolidated, predominately clay cement, poor to fair porosity, no show. Minor amount varigated shale as above.

3580-3705 Shale varigated, predominately grey, grey-green, abundant yellow. Thin interbeds sandstone, light grey, very fine grained, clay filled, no porosity.

3705-3795 Sandstone, clear, very fine grained, silty, friable to unconsolidated, probably clay filled, poor porosity, no show. Minor amount of shale as above.

3795-4450 Shale, varigated, predominately dark brown to dark grey, fissile, carbonaceous, part silty. Minor amount interbedded sandstone, predominately, light grey, very fine grained, silty, abundant black and brown chert grains, clay filled, poor porosity to no porosity, occasional asphaltic stain, no show Occasional thin beds of coal below 4148'.

4450-4576 S ndstone, tan to light brown, very fine grained, silty, calcareous, friable to unconsolidated, possibly clay filled, poor porosity, light brown stain, part with yellow fluorescence, very faint cut. Shale predominately dark grey, brown as above.

Circulated out samples 4576 drlr. 4569 S. L. M.

D. S. T. #1 4500' to 4569' S. L. M.

4569-4860 Shale, predominately dark grey to dark brown, fissile to blocky, very carbonaceous, part asphaltic, minor amount of varigate, as above. S ndstone white, light grey, tan, very fine to fine grained, predominately very silty, calcareous clay cement, friable to unconsolidated, poor porosity, no show. Abundant thin beds of asphaltite.

D. S. T. #2 4860' to 4970'

4860-4970 Sandstone white to tan, very fine to fine grained, poorly sorted, occasional black grains, trace glauconitic, friable to unconsolidated, poor to fair porosity, approximately 20% with faint yellow to dull gold fluorescence, no cut. Minor amount of shale and asphaltite as above.

4970-5050 Sandstone and minor amount of shale as above.

TOP MANCOS 5043' (+2461) SHOULD BE BELOW CASTLEGATE

5050-5095 Shale, 90%, brown, carbonaceous, silty, 10% medium grey, fissile, silty, soft, and red, red-green mottled, marroon, silty, blocky to fissile. Minor amount sandstone as above.

5095-5125 Shale, predominately green to grey, fissile to platy, silty. Abundant red and brown as above.

5125-5155 Shale, predominately dark brown and medium grey, fissile, silty to very silty, abundant, green, grey-green, red, trace limestone, orange, trace coal pyritic.

5155-5183 Shale, dark brown, as above, with increase in red and decrease in grey.

TOP OF THE L. SEGO 5183' (+2321)

5183-5230 Shale, predominately grey, grey-green, fissile, silty, soft to firm, abundant red and brown. Trace shale black carbonaceous with coal laminae.

TOP OF THE BUCK SHALE 5232' (+2272)

5230-5275 Shale as above trace siltstone white, sandy, firm. Trace sandstone brown to light grey, very fine grained, argillaceous non-calcareous to slightly calcareous, firm to hard, no porosity, no show.

5275-5298 Shale as above, sandstone, 5%, white, clear, very fine grained, clay cement no porosity, grading to 5% siltstone.

TOP OF THE CASTLEGATE 5298' (+2206)

5298-5335 Shale, 95%, as above with trace black, hard, siliceous, trace siltstone as above. Sandstone, 5%, tan, very fine grained, very silty, poorly sorted, abundant clay cement, hard, no porosity, no show.

5335-5400 Shale 60% varigated as above, predominately red-brown, probably cavings. Siltstone, 40%, light grey to white, slightly calcareous, argillaceous, sandy, firm.

5400-5430 Shale, 90%, varigated as above, predominately red, soft, silty, abundant green, grey-green, firm, part very silty. Siltstone, 10%, as above.

5430-5470 As above, shale becoming predominately grey, fissile, waxy, silty.

5470-5520 Shale, 100%, varigated as above.

5520-5540 Shale predominately grey to dark grey, silty, fissile. Trace siltstone, brown, very argillaceous, soft, grading to brown shale.

5540-5675 Shale predominately, dark brown, silty, sandy, carbonaceous, soft, occasional trace coal and siltstone.

5675-5715 Shale predominately red, slightly calcareous, firm. Abundant brown, grey, grey-green, fissile, silty.

5715-5815 Shale, predominately dark brown to dark grey-brown, silty, fissile to blocky, occasional trace coal and argillaceous sandstone.

5815-6185 Shale, predominately dark brown to grey, blocky to fissile, part silty, minor amount varigated red, green, grey-green, occasional trace siltstone, sandstone, and coal.

TOP OF THE EMERY SANDSTONE 6048' (-1456)

6185-6245 Shale as above. Sandstone 5%, light grey-brown, very fine grained, very silty, argillaceous, no porosity, no show.

6245-6450 Shale dark brown as above, occasional bed grey, silty, fissile, part calcareous. Occasional trace to 5% sandstone, siltstone, and coal.

6450-6470 Shale as above becoming predominately red. Trace siltstone and sandstone as above.

6470-6670 Shale as above predominately dark brown, very silty, fissile, carbonaceous, and grey and red as above, occasional trace siltstone and sandstone.

6670-6730 As above with trace to 10% siltstone, brown to white, calcareous, argillaceous, friable.

6730-8070 Shale predominately dark brown to black, fissile, very calcareous, very silty, trace argillaceous sandstone and siltstone.

8070-8230 Siltstone, light to dark brown, very argillaceous, calcareous, pyritic, sandy grading to minor amount sandstone, grey to brown, very fine grained, silty, clay filled, no porosity, no show. Minor amount of shale as above with abundant green, waxy, orange, silty, calcareous. Trace of bentonite, tan, silty, micaceous.

8230-8420 Shale almost all dark brown, fissile, very silty, carbonaceous, calcareous. Trace siltstone as above.

8420-8550 Siltstone, brown, sandy argillaceous, calcareous, firm grading to occasional trace of sandstone. Shale, dark brown, fissile to blocky, silty, calcareous, very carbonaceous.

8550-8560 Shale and siltstone as above. Trace sandstone, white, medium grained, occasional green and orange grains, soft, white, clay filled, no porosity, no show.

8560-8680 Shale, dark grey-brown, silty, fissile, calcareous.

8680-8754 Shale as above with abundant light grey to gree, waxy, bentonitic, silty, calcareous. Siltstone, 5%, vari-colored, calcareous, bentonitic, micaceous, soft.

TOP FRONTIER FORMATION 8754' (-1250)

8754-8770 Shale dark brown as above. Minor amount siltstone, white, calcareous, occasional trace glauconite, grading to trace sandstone, white, very fine grained, glauconitic, calcareous clay filled, no porosity.

8770-8800 Shale, 70%, siltstone, 20%, as above. Sandstone, 10%, white, very fine to fine grained, part slightly glauconitic, calcareous. clay cement, friable to unconsolidated, no porosity to very poor porosity, no show.

8800-8850 Shale, predominately black, fissile, brittle, silty, calcareous. Occasional fragment of coal. Trace siltstone, tan to grey, bentonitic, micaceous, part calcareous, soft to firm.

8850-8890 Shale as above becoming very pyritic. Trace sandstone and siltstone as above.

8890-8960 Siltstone, brown to grey, hard, very argillaceous, part with thin coal laminae, grading to minor amount of sandstone, brown, very fine grained, very silty, part lignitic, clay filled, no porosity, no show. Shale black, silty, fissile, occassional coal laminae. Trace coal.

8960-8995 Shale as above and brown, waxy, blocky. Occassional sandstone and siltstone as above.

TOP DAKOTA SILTSTONE 9026' (-1522)

8995-9040 Siltstone, dark grey to brown, very argillaceous, sandy, grading to sandstone, no porosity, no show.

9040-9050 Shale as above and abundant grey to light brown, bentonitic, micaceous, fissile. Trace siltstone as above. Trace sandstone, white to green, fine to medium grained, poorly sorted, abundant calcareous clay cement, no porosity, no show.

9050-9102 Shale dark brown to black, fissile, silty to very silty, abundant grey, trace green, waxy. Minor amount of siltstone and sandstone as above.

Circulated samples 9115'

TOP DAKOTA SANDSTONE 9102' (-1611)

9102-9120 Sandstone, white to clear, very fine to fine grained, poorly sorted, becoming fine grained fair sorting, part with brown and orange chert grains, non-calcareous, predominately clay filled friable to hard, and siliceous, no porosity, minor amount unconsolidated possible fair porosity, no show. Minor amount shale as above.

9120-9210 Shale predominately dark brown to black, fissile, part calcareous minor amount black lignitic fissile, hard. Occasional bentonite tan, white, micaceous. Interbeds of sandstone, light grey to tan, very fine to fine grained, with scattered coarse grains of brown chert, hard, platy, siliceous clay cement grading to siltstone, no porosity, no show.

TOP OF THE CEDAR MOUNTAIN SANDSTONE 9210' (-1706)

Circulated out samples 9235'

D. S. T. #3 9203-9235

9210-9240 Sandstone, grey, clear, very fine grained at top grading to coarse grained at bottom, part conglomeratic with coarse grained brown chert, poorly sorted at top becoming fair sorted at bottom, predominately non-calcareous clay cement, part hard, siliceous, predominately friable to unconsolidated, approximately 50% with poor to fair porosity, no show.

9240-9300 Shale dark brown to black, silty, fissile to blocky and claystone white, pale green, waxy, all siliceous, hard. Thin interbeds of sandstone, varicolored, predominately very fine to fine grained, part coarse grained, part conglomeratic with chert pebbles, part very pyritic, hard, no porosity, no show.

Circulated out samples 9303'

9300-9324 Sandstone white very fine to fine grained, very silty, poorly sorted, becoming fine to medium grained, fair sorted @9320', slightly calcareous, siliceous, clay cement, hard to uncon-

solidated, unconsolidated grains with clay cement coating, possible poor porosity, no show.

TOP OF THE MORRISON FORMATION 9324' (-1820)

Circulated out samples 9332'

Circulated out samples 9380'

9324-9520 Shale varigated predominately hard, siliceous. Thin interbeds sandstone, varicolored, predominately very fine to fine grained, hard, siliceous, no porosity. Occasional trace limestone, varicolored.

9520-9527 Sandstone, clear, medium to coarse grained, poorly sorted, predominately sub-angular, scattered brown and grey chert grains, white calcareous clay cement, hard, poor porosity, no show.

9527-9610 Shale and thin interbeds of varicolored sandstone as above.

9610-9660 Sandstone, white, clear, fine to coarse grained, poorly sorted, sub-rounded, scattered red, black and grey chert grains, slightly calcareous to non-calcareous, friable to unconsolidated, poor to fair porosity, no show. Shale predominately dark brown to black, carbonaceous, pyritic abundant varigated as above.

9660-9800 Shale predominately green, grey-green, abundant red, marroon, black. Sandstone grey, white, orange part very fine grained, predominately fine to medium grained, occasionally with varicolored chert grains, clay filled, no porosity, no show. Occasional thin bed of limestone, grey to brown, argillaceous, part fossiliferous, dense.

9800-9830 Sandstone, clear, white, fine to medium grained, some coarse grained, poorly sorted, sub-angular to sub-rounded, occasional grey, brown and black chert grains, part slightly calcareous, friable to hard, clay and silica cement, no porosity, no show. Minor amount of shale varigated as above.

9830-9870 Shale predominately red, silty, sandy, soft to firm, minor amount grey-green to green increasing @9870. Minor amount of sandstone and trace limestone as above.

Circulated out samples 9898'

9870-9914 Sandstone, clear to white, very fine grained at top becoming medium grained at 9890 poorly sorted scattered black, brown and orange chert grains, platy hard clay cement, part unconsolidated, no porosity to very poor porosity, no show. Shale, varigated, predominately lavender to red, trace blue.

TOP ENTRADA 9914' (-2410)

Circulated out samples 9918-28, 9928-38, 9938-48, 9948-58.

9914-10018 Sandstone clear to pink (buff dry) predominately medium grained, part silty, poor to fair sorting, sub round, predominately well cemented with clay cement, part unconsolidated poor to fair porosity, no show. Abundant sandstone orange fine grained, very argillaceous in lower portion of interval. Shale predominately red becoming predominately brown, waxy carbonaceous at base of interval.

Schlumberger

COMPENSATED NEUTRON FORMATION DENSITY

COUNTY UINTAH
FIELD or LOCATION WILDCAT
WELL S.E. FLANK #1-5
COMPANY CHORNEY OIL CO.

COMPANY CHORNEY OIL COMPANY

WELL S.E. FLANK NO. 1-5

FIELD WILDCAT

COUNTY UINTAH STATE UTAH

Location: NE/NE

Sec. 5 Twp. 15S Rge. 23E

Other Services:
BHC-GR
DIL
FDC-GR

2
515

Permanent Datum: G.L. ; Elev.: 7426
Log Measured From K.B., 11 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 7437
D.F. ----
G.L. 7426

Date	6-12-72		
Run No.	ONE		
Type Log	EPT NEUTRON		
Depth—Driller	9603		
Depth—Logger	9601		
Bottom logged interval	9600		
Top logged interval	3800		
Type fluid in hole	FGM		
Salinity, PPM Cl.	770		
Density	9.2		
Level	FULL		
Max rec. temp., deg F.	208		
Operating rig time	9 HOURS		
Recorded by	FARR. SHEPPARD		
Witnessed by	LOCKHART		

RUN	BORE-HOLE RECORD			CASING RECORD			
No.	Bit	From	To	Size	Wgt.	From	To
ONE	7-7/8	CSG.	9603	13-3/8	48	SURFACE	512

Schlumberger

RUN LATEROLOG WITH LINEAR CORRELATION LOG

COUNTY UINTAH
FIELD or LOCATION WILDCAT
WELL S.E. FLANK NO. 1-5
COMPANY CHORNEY OIL CO.

COMPANY CHORNEY OIL COMPANY

WELL S.E. FLANK NO. 1-5

FIELD WILDCAT

COUNTY UINTAH STATE UTAH

LOCATION NE/NE

Sec. 5 Twp. 15S Rge. 23E

Other Services:
BHC-GR
FDC-GR
CNL-GR

Permanent Datum: G.L. , Elev. 7426
Log Measured From K.B. , 11 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 7437
D.F. ---
G.L. 7426

Date	6-11-72			
Run No.	ONE			
Depth—Driller	9603			
Depth—Logger	9601			
Btm. Log Interval	9595			
Top Log Interval	512			
Casing—Driller	13-3/8@512	@	@	@
Casing—Logger	512			
Bit Size	7-7/8			
Type Fluid in Hole	FGM			

Dens. / Visc.	9.2 / 47			
pH / Fluid Loss	8.5 / 6 ml	ml	ml	ml
Source of Sample	FLOWLINE			
R_m @ Meas. Temp.	1.58@ 88 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	1.07@ 94 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	1.48@ 88 °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	M / C			
R_m @ BHT	.80 @ 175F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS			
Max. Rec. Temp.	175 °F	°F	°F	°F
Equip. / Location	7647 / VERN			
Recorded By	FARR, SHEPPARD			
Witnessed By	LOCKHART			

ECU 515

formations out of order
surface ss green River - log
begins at 520

		sh	ss	ls		ke	
480	520 — 1000	45	40	15		6.8	3264
1000	1000 — 2000	45	40	15		6.8	6800
1000	2000 - 3000	65	35			6.1	6100
1000	3000 — 4000	30	70			8.2	8200
1000	4000 - 5000	70	30			5.8	5800
1000	5000 - 6000	75	25			5.5	5500
1000	6000 - 7000	95	5			4.3	4300
1000	7000 — 8000	100	—	—		4.0	4000
500	8000 - 8500	95	—	5		4.2	2100
500	8500 - 9000	85	15			4.9	2450
600	9000 — 9600	45	55			7.3	4380
							52894

marker

9080
~~480~~

BHT at TD

ke to BHT = 5.8 millical / cm sec °C

580

FORMATIONS OUT OF ORDER

WELL DATA

OPERATOR:	CHORNEY OIL COMPANY P. O. BOX 144 CASPER, WYOMING 82601
FARM:	SE FLANK UINTA #1-5
LOCATION:	NE NE SEC. 5, T 15 S, R 23 E
ELEVATION:	7425 GL 7437 KB
SPUD DATE:	12:30PM 5-5-72
DRILLING COMPLETED:	10:15AM 6-11-72
DEPTH REACHED:	9603 SLM, 9601 SCHL.
DEEPEST FORMATION PENETRATED:	GLEN CANYON FORMATION
SURFACE CASING:	13 3/8 TO 512'KB
PRODUCTION CASING:	NONE
PRODUCTION:	NONE
HOLE SIZE:	7 7/8"
CORES:	NONE
WELL COMPLETED:	D&A 5-17-72
DRILL STEN TESTS:	(See pages 3 & 4)
LOGS:	DUAL INDUCTION-LATEROLOG: SURFACE CASING TO T.D. (512-9595). BHC-SONIC-GAMMA RAY WITH CALIPER & F-FACTOR: SURFACE CASING TO T.D. (512-9599). COMPENSATED NEUTRON POROSITY-FORMATION DENSITY COMPENSATED: 3850 to 9699.
CONTRACTOR:	TRUE DRILLING COMPANY CASPER, WYOMING

WELLS WITH ANOMALOUS GRADIENTS IN UTAH

UINTAH COUNTY - TOTAL { ALL WELLS = 145 / ANOMALOUS GRAD. WELLS = 14

LOCATION			DEPTH	BHT	GRADIENT	AMBIENT SURFACE TEMP °C
SEC	T	R	m	°C	°C/km	
27	15S	19E	1658	93.3	50	10.5
23	5S	22E	511	37.8	60	7.2
29	8S	21E	1089	48.3	38	7.2
8	9S	20E	995	51.1	44	7.2
18	9S	24E	893	61.1	60	7.2
8	11S	21E	1869	92.2	46	7.2
27	13S	21E	764	39.4	42	7.2
21	4S	20E	653	41.7	53	7.2
28	4S	20E	1181	54.4	40	7.2
24	10S	24E	1294	62.8	43	7.2
32	10S	24E	1368	66.7	43	7.2
35	10S	25E	833	37.8	37	7.2
10	11S	23E	160	53.4	289	7.2
22	14S	25E	2124	93.3	39	10.5

Uintah Co

● > 45°C/km
> 40°C/km
> 35°C/km
● < 35°C/km

PI

No		No	
1	◎	87	◎
34	◎	88	○
✓ 54	● 49.8°C/km	89	○
55	◎	90	○
56	●	✓ 91	▲ 60.3°C/km
✓ 57	▲ 59.8°C/km	92	○
58	◎	93	○
59	▲	✓ 94	● 45.5°C/km
62	◎	✓ 97	△ 42.2°C/km
64	●	98	○
65	●	100	○
66	●		
67	◎		
68	◎		
69	◎		
70	◎		
71	◎		
72	◎		
74	◎		
75	◎		
✓ 76	◎		
77	●		
78	◎		
79	◎		
80	◎		
85	◎		
✓ 86	△ 44.1°C/km		

38 PI
107 UGMS
145

UGMS

No		No		No	
1	○	28	○	No	● < 35°C/km
2	▲ 52.7°C/km	29	○	55	○ ✓
3	○ 40.0°C/km	30	○	56	○ ✓
4	○	31	○	57	△
5	○	32	○	58	○
6	○	33	○	59	○
7	○	34	○	60	○
8	○	35	○	61	○
9	○	36	○	62	○
10	○	37	○	63	○
11	○	38	○	64	○
12	○	39	○	65	○
13	○	40	○	66	○
14	○	41	○	67	○
15	○	42	○	68	○
16	○	43	○	69	○
17	○	44	○	70	○
18	○	45	○	71	△
19	○	46	○	72	○
20	○	47	○	73	○
21	○	48	○	74	○
22	○	49	○	75	○
23	○	50	○	76	○
24	○	51	○	77	○
25	○	52	○	78	○
26	○	53	○	79	○ 42.9 ✓
27	○	54	○	80	○

Continued

Uintah Co
UGMS Continued

No		
81	○	
82	○	43.4°C/km
83	△	36.7°C/km
84	○	
85	○	
86	○	
87	○	
88	▲	288.7°C/km
89	○	
90	○	
91	○	
92	○	
93	○	
94	○	
95	○	
96	○	
97	○	
98	○	
99	○	
100	○	
101	○	
102	○	
103	⊙	39.0°C/km
104	○	
105	○	
106	○	
107	○	

UGMS
UINTAH CO.

	SEC	T	R	DEPTH	GF	
✓ 1	35	3S	22E	5522	108	✓
✓ 2	21SE	4S	20E	2143	107	✓
✓ 3	28SE	4S	20E	3874	130	✓
✓ 4	33	4S	20E	7440	138	✓
✓ 5	16SW	4S	21E	5201	8.46 89	✓
✓ 6	4	4S	22E	7923	8.4563 112	✓
✓ 7	12	4S	22E	5882	149	✓
✓ 8	15NE	4S	22E	4755	97	✓
✓ 9	24SW	4S	22E	4755	84	✓
✓ 10	34	4S	22E	3766	106	✓
✓ 11	35	4S	22E	4827	116	✓
✓ 12	27	8S	21E	5754	92	✓
✓ 13	1SE	8S	21E	5421	118	✓
✓ 14	9SE	8S	21E	5466	125	✓
✓ 15	10	8S	21E	5548	121	✓
✓ 16	11	8S	21E	5326	130	✓
✓ 17	12	8S	21E	5468	126	✓
✓ 18	13	8S	21E	5123	132	✓
✓ 19	14	8S	21E	5337	133	✓
✓ 20	15NE	8S	21E	5800	129	✓
✓ 21	16SW	8S	21E	5391	128	✓
✓ 22	19SE	8S	21E	5214	128	✓
✓ 23	21NE	8S	21E	5164	129	✓
✓ 24	23NW	8S	21E	7189	129	✓
✓ 25	24NW	8S	21E	5538		✓
✓ 26	28					
✓ 27	29NW					

UGMS
UINTAH CO. P-2

	SEC	T.	R.	DEPTH	°F	
✓ 28	4 NE	8S	22E	5857	118	✓
✓ 29	5 NE	8S	22E	5780	124	✓
✓ 30	6 SE	8S	22E	5676	118	✓
✓ 31	7 SE	8S	22E	5620	107	✓
✓ 32	8 SW	8S	22E	5573	117	✓
✓ 33	14 SE	8S	22E	3996	100	✓
✓ 34	17 SW	8S	22E	5476	80	✓
✓ 35	18 NE	8S	22E	5409	129	✓
✓ 36	23 NW	8S	22E	5172	120	✓
✓ 37	32	8S	22E	7907	162	✓
✓ 38	10	8S	23E	4452	107	✓
✓ 39	18	8S	23E	6321	116	✓
✓ 40	27	8S	23E	5921	110	✓
✓ 41	9	8S	24E	4422	108	✓
✓ 42	12 SW	8S	24E	4568	104	✓
✓ 43	34	8S	24E	8492	154	✓
✓ 44	6	8S	25E	4630	104	✓
✓ 45	34	8S	25E	11476	218	✓
✓ 46	36	9S	17E	7793	156	✓
✓ 47	9 SE	9S	18E	5997	133	✓
✓ 48	25 SE	9S	18E	8020	163	✓
✓ 49	8 SW	9S	20E	5672	128	✓
✓ 50	22 NE	9S	20E	3602	97	✓
✓ 51	19	9S	20E	6487	136	✓
✓ 52	20 NE	9S	20E	10312	170	✓
✓ 53	16 NW	9S	25E	3702	106	✓
✓ 54	28	9S	23E	3884	112	✓
✓ 55	29	9S	25E	5161	122	✓
✓ 56	20	9S	24E	5367	135	✓

UGMS
UINTAH Co P-3

	SEC	T	R	DEPTH	°F	
✓57	24	9S	24E	3161	100	✓
✓58	34 NW	9S	25E	7878	161	✓
✓59	11 SW	10S	17E	5464	123	✓
✓60	14 NW	10S	18E	6630	130	✓
✓61	15 NW	10S	18E	9499	162	✓
✓62	13 SW	10S	18E	7449	138	✓
✓63	1	10S	19E	6759	143	✓
✓64	7 SW	10S	20E	9425	172	✓
✓65	4 SW	10S	20E	6058	142	✓
✓66	8	10S	20E	7846	156	✓
✓67	17	10S	20E	8712	155	✓
✓68	2	10S	21E	6478	139	✓
✓69	17	10S	21E	5215	116	✓
✓70	8 NE	10S	22E	8266	166	✓
✓71	9	10S	22E	2209	85	✓
✓72	21	10S	22E	5299	128	✓
✓73	2	10S	23E	5222	128	✓
✓74	14	10S	23E	8502	154	✓
✓75	15	10S	23E	7309	158	✓
✓76	24	10S	23E	5187	135	✓
✓77	11	10S	23E	5048	117	✓
✓78	14 SW	10S	24E	3318	104	✓
✓79	24 NW	10S	24E	4246	145	✓ ✓
✓80	28	10S	24E	7048	153	✓
✓81	29	10S	24E	6030	145	✓
✓82	32	10S	24E	4490	152	✓ ✓
✓83	35	10S	25E	2734	100	
84	7	11S	21E	9828	172	✓

UGMS

UINTAH Co. P-4

	SEC	T.	R	DEPTH	°F	
✓ 85	14	11S	21E	8402	157	✓
✓ 86	21 SW	11S	21E	9532	171	✓
✓ 87	2 SW	11S	23E	8037	150	✓
✓ 88	10	11S	23E	524	128	✓ ✓ 158.4
✓ 89	30	11S	23E	7382	140	✓
✓ 90	14	12S	24E	5270	140	✓
✓ 91	15 SE	12S	24E	4349	102	✓
✓ 92	18 SW	12S	25E	4171	98	✓
CARBON	8	13S	17E	4830	90	✓ CARBON Co.
✓ 93	12	13S	20E	7314	155	✓
✓ 94	27	13S	21E	4214	104	✓
✓ 95	25 NW	13S	23E	6091	115	✓
✓ 96	15	13S	24E	4180	100	✓
✓ 97	13 SE	14S	17E	8997	146	✓
✓ 98	25	14S	17E	5705	108	✓
✓ 99	15 E	14S	18E	5513	109	✓
✓ 100	30	14S	20E	6794	120	✓
✓ 101	32 SE	14S	20E	12429	224	✓
✓ 102	33 SW	14S	20E	4747	100	✓
✓ 103	22 SW	14S	25E	6967	200	✓ G=21.4 °F/1000 ORANGE ONLY WITH (5)
✓ 104	26	15S	22E	4829	123	✓
✓ 105	36	15S	22E	10336	176	✓
✓ 106	31 SW	15S	24E	8414	170	✓
107	11	7S	23E	5434	118	✓

emergent 5/06