

PAC

1st Test

GRAPHICAL PROGNOSIS

Area FIRST PORTION UNITA BASIN County UINTAH State UTAH
 Operator SHELL OIL CO Leases UTAH STATE Well No. CORE HOLE 14-36
 Location SW-SW Sec. 36 T 9S. R 2E
 Date JULY 8, 1964 Est. Elev. 4950

GEOLOGICAL

MECHANICAL

Samples

Logs

Form Tops
DST's

Hole
Size

Casing

Mud

Remarks

NO
Samples

10' Samples

600-900' Core (3 1/2')

1800

DENSITY LOG (IN AIR)

INDUCTION LOG (IN AIR)

BHC - SONIC (IN WTR)

LL-7 (IN WTR)

T/73
(+3550)

T/15
1825 (+3175)

B/15
(+2375)

EST TD 2700±

6 3/4

CONDUCTOR
2 1/2"
2 7/8"

AIR - MIST - OR WATER

* Mist or water base fluids must be saturated w/sodium bicarbonate

Div. E.E. _____
 Div. M.E. _____
 Div. Oils. Supt. _____

Production Manager _____
 Exploration Manager _____

UTAH-STATE CORE HOLE 14-36

Cored 618
Reid. 572
% Reid. 92.5%

DITCH SAMPLES
AIR AND MIST DRILLED SAMPLES & CORES

<u>FROM</u>	<u>TO</u>	<u>FIELD DESCRIPTION</u>
750	780	Ss, lt gry-wht, F, v. prly sorted w/Sh, lt grn-maroon, Sh often v. silty
780	810	Ss, lt gry, F, a.a. w/Sh, a.a.
810	840	Ss, lt gry-lt brn, F-VF
840	870	Shaley ls, lt gry-lt brn, non-crystalline, w/Sltstn, lt gry-lt grn Ss, more course than above but a.a.
870	900	A.A., but more Sltstne
900	930	Ss, wht-lt gry, F-med grn, prly sorted w/some lt grn to gry sandy calc sltstn
930	970	Ss, wht-lt gry, F-VF
970	1000	Ss, a.a. w/few large peices gry-brn sltstn
1000	1030	Ss, a.a. but wider size range-fine to med w/sltstn, a.a.
1030	1070	Ss, as in smpl 930-970 few pieces sltstn, a.a.
1070	1090	No Samples
1090	1120	A.A.
1120	1150	Sh, limey silty, drk gry with lt gry sltstn, lt grn sh & sltstn & Ss, lt gry, fine grn, prly sorted
1150	1180	A.A., but more Ss
1180	1210	Ss, lt gry-wht, F-VF
1210	1240	A.A. w/some gry-brn Sh
1240	1270	Sh, limey, silty, gry-brn w/Ss, F, prly sorted
1270	1300	N.S.
1300	1310	Sh, brn-gry, limey silty
1310	1320	Marlstn, brn w/gry Sltstn & Ss, a.a.
1320	1330	Sh, gry w/sltstn & Ss, a.a.
1330	1340	Ss, F-VF, gry w/gry Sh, a.a.

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
1340	1350	A.A.
1350	1360	A.A.
1360	1370	A.A.
1370	1380	Ss, a.a. w/Sh lt brn-lt gry, a.a. w/wht claystn
1380	1390	Claystn, wht; Ls, brn
1390	1400	Sh, gry w/some sarlstn, a.a.
1400	1410	Ss. VF-F, lt gry
1410	1420	Ss, a.a. w/some marlstn, brn a.a.
1420	1430	A.A.
1430	1440	Marlstn, med brn w/course Stlstn
1440	1450	A.A.
1450	1460	A.A.
1460	1470	A.A. but becoming more Ss, wht, F-M
1470	1480	Marlstn, drk gry-brn w/minor Ss, a.a.
1480	1490	Marlstn, a.a.
1490	1500	A.A. w/Ss, wht, F
1500	1510	A.A.
1510	1520	Ss, VF, wht w/Ls(?)
1520	1530	Marlstn, brn, a.a., minor Ss
1530	1540	Marlstn, a.a.
1540	1550	A.A.
1550	1560	A.A., sli sandy
1560	1570	A.A., inc. Ss
1570	1580	A.A.
1580	1590	Ls(?), VF, wht-lt gry w/Ss
1590	1600	A.A.

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
1600	1610	Marstn, drk brn-drk gry, occ piece lt brn-brn marly Sh w/some wht calcite crystal agg. 1/2 mm & smaller in size
1610	1620	A.A.
1620	1630	Marlstn, brn, a.a. w/occ tr calcite
1630	1640	A.A.
1640	1650	No Sample
1650	1660	No Sample
1660	1670	No Sample
1670	1680	Marlstn, a.a. w/occ buff Sh, occ silty, tr calcite, a.a.
1680	1690	No Sample
1690	1700	A.A.
1700	1710	Marlstn, buff Sh, a.a. tr calcite. Sh becoming marly
1710	1720	No Sample
1720	1730	Pr marlstn, a.a. w/tr brn marlstn arg.
1730	1740	A.A.
1740	1750	A.A.
1750	1760	Marlstn, a.a. w/wht-grn Ls
1760	1850	A.A.
1850	1902	Core #1 Recovered 49'
1850	1851	<u>Nac</u>
1851	1852	Oil Sh w/tr por
1852	1853	<u>3" Nac nodule</u>
1853	1854- $\frac{1}{2}$	<u>2" Nac nodule, VF</u>
1854- $\frac{1}{2}$	1855	<u>2" Nac Nodule</u>
1855	1856	<u>3-$\frac{1}{2}$" "</u>
1856	1857	<u>4" Nac "</u>
1857	1857- $\frac{1}{2}$	<u>1" Nac Nodule</u>

Note: Cores #1 thru 7. Field description includes vacholite, fractures etc. Estimated thickness not indicated.

Cores #8 - 13. Same as above w/ relative thickness (estimated) included.

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
1857- $\frac{1}{2}$	1860	<u>4" Nac Band</u> @ 57 $\frac{1}{2}$
1860	1862- $\frac{1}{2}$	<u>1/2" Nac Band</u>
1862- $\frac{1}{2}$	1863- $\frac{1}{2}$	<u>2" " "</u>
1863-$\frac{1}{2}$	1864	
1864	1865	<u>3" Nac Nod</u>
1865	1866- $\frac{1}{2}$	<u>3" Nac Band</u>
1866- $\frac{1}{2}$	1867	<u>2" Nac Nod. VF</u>
1867	1869	<u>2" Nac Nod.</u>
1869	1870- $\frac{1}{2}$	<u>1-$\frac{1}{2}$' mottled Nac w/10% marlstn</u>
1870- $\frac{1}{2}$	1873- $\frac{1}{2}$	<u>1" Nac Band</u> 73 $\frac{1}{2}$
1873- $\frac{1}{2}$	1875	<u>2" tuff bands</u> 73 $\frac{1}{2}$
1875	1875- $\frac{1}{4}$	<u>1' tuff</u>
1875- $\frac{1}{4}$	1878	<u>3" Nac Nod</u> 75 $\frac{1}{2}$
1878	1879- $\frac{1}{2}$	<u>1" Nac Band</u>
1879- $\frac{1}{2}$	1880	3" asphalt Nod, F
1902	1962	<u>Core #2 Recovered 55'</u>
1902	1927	Uniform-non-descript
1927	1928	1' asphalt Nod
1932	1949- $\frac{1}{2}$	Tr bleeding hor frac
1949- $\frac{1}{2}$	1957	4" highly O.S. on sat. <u>tuff bleeding H.O.</u>
1957	1962	No recovery
1962	2000	<u>Core #3 Recovered 38'</u>
1962	1989	<u>1" Band tuff</u> 89
1989	1991	<u>1" Band rich tuff</u> 91
1991	1999	<u>Occ thin tuff laminations</u> 91-92
2000	2060	<u>Core #4 Recovered 60'</u>
2000	2005	<u>1" band tuff</u> 92

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
		Core #4 (cont'd)
2038	2041	<u>VF's</u>
2041	2050	<u>1" tuff</u> 50
2050	2056	<u>1" tuff</u> 50
2056	2058- $\frac{1}{2}$	<u>5" tuff</u> 50
2058- $\frac{1}{2}$	2059- $\frac{1}{2}$	<u>1/2" tuff-asphaltic</u>
2060	2120	Core #5 Recovered 60'
2060	2063	<u>1" tuff asphaltic</u> 20
2063	2073	<u>1" tuff</u> 20
2073	2078	<u>1" tuff</u> 20
2095	2097	<u>2' VF</u>
2097	2113	<u>3" tuff</u> 47
2113	2114	<u>3 1/8"-1/2" tuff laminations</u>
2114- $\frac{1}{2}$	2115	<u>6" mottled tuff</u>
2115- $\frac{1}{2}$	2117	<u>1-$\frac{1}{2}$' irregular laminated tuff interbedded w/marlstn</u>
2120	2180	Core #6 Recovered 59'
2120	2180	Non-descript
2165	2180	Slightly burned
2185	2212	Core #7 Recovered 27'
2185	2186- $\frac{1}{4}$	<u>1/2" tuff</u>
2186- $\frac{1}{4}$	2187- $\frac{1}{2}$	<u>1/4" tuff Nod.</u>
2187- $\frac{1}{2}$	2189- $\frac{1}{2}$	<u>3 1/4" tuff bed w/1/2" tuff Nod.</u>
2189- $\frac{1}{2}$	2196	<u>1" tuff</u> 80
2196	2198	<u>1/4" tuff</u> 10
2198	2201-3/4	<u>4" tuff zone w/mottled grn tuff. Small VF</u> 70
2201-3/4	2207	<u>3" band of mottled tuff and oil Sh</u> 2120
2210	2212	Mottled gyp & Sh w/1/16" gyp beds approx. 30° w/hor.

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
2213	2273	Core #8 Recovery 60'
2213	2217	Bleeding wtr at 2216-17, blk <u>VRich</u>
2217	2218	<u>Rich</u>
2218	2220	1' bleeding wtr at 2218-19, <u>Med Richness</u>
2220	2224	<u>Rich</u>
2224	2230	<u>1" tuff at 2225-$\frac{1}{2}$, 3-1" tuffs at 2229-29-$\frac{1}{2}$, Rich</u>
2230	2233	<u>1" tuff at 2231-$\frac{1}{2}$, M</u>
2233	2239	<u>Rich</u>
2239	2241	<u>Poor</u>
2241	2242- $\frac{1}{2}$	<u>1" tuff</u>
2243	2244	<u>1" asphaltic tuff at 2243-$\frac{1}{2}$, VR</u>
2244	2249	<u>Poor</u>
2249	2251	<u>Poor</u>
2251	2253	<u>Rich</u>
2253	2256	<u>Med</u>
2256	2258	<u>VR</u>
2258	2260	Brn to lt Brn, <u>Med</u>
2260	2263	Lt grn, <u>Med</u>
2263	2265	<u>7" tuff at 2264-$\frac{1}{2}$, drk grn, Rich</u>
2265	2267	<u>2" asphaltic tuff at 2265-$\frac{1}{2}$, Rich</u> <u>6" wavy tuff at 2266</u>
2267	2269	<u>10" tuff at 2268, Brn, Med</u>
2269	2270	Blk to med grn to grn, <u>Med</u>
2270	2273	Blk, <u>Rich</u>
2273	2334	Core #9 Recovery 61'
2273	2283	<u>VF in part asphalt fitted asphaltic tuff</u> 21-22
2273	2280	Tan, <u>Poor</u>
2280	2282	Med grn, <u>Fair</u>

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
		Core #9 (cont'd)
2282	2284	Tan, <u>Poor</u>
2284	2289	Lt gry, <u>Med</u>
2289	2294- $\frac{1}{2}$	Lt gry, <u>M</u>
2294- $\frac{1}{2}$	2295	Tan & lt gry, <u>P-M</u>
2295	2295- $\frac{1}{2}$	<u>Asphaltic tuff</u>
2295	2302	Lt gry, <u>M</u>
2302	2303	Tan, <u>P</u>
2303	2305	Lt gry, <u>P-M</u>
2305	2309	Interbedded
2309	2313	Lt gry & tan, <u>M</u>
2310	2313	Interbedded-thinly bedded marlstn & <u>"welded tuff"</u>
2313	2314	Tan, <u>P</u>
	2314- $\frac{1}{2}$	<u>6" welded tuff</u>
2314	2315	Lt gry, <u>M</u>
	2315	6" tan, Ss
2315	2318	3" Ss at 2216
2318	2325	12" Ss at 2318-19 6" Ss at 2321 3' Ss at 2321- $\frac{1}{2}$ -24- $\frac{1}{2}$
2325	2334	Lt gry, <u>M</u>
2334	2359	<u>Core #10 Recovery 25'</u>
2334	2346	Lt gry, <u>P-M</u>
2346	2355	<u>VF (2346-50), med gry, M</u>
2355	2356	Med brn, <u>M</u>
2356	2359	Sh, drk gry (no hydrocarbon) Nil

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
2359	2417	Core #11 Recovered 48'
2359	2360	Blk, <u>VR</u>
2360	2361	<u>Rich</u>
2361	2364	Lt brn, <u>Fair</u>
2364	2365	Drk gry, <u>P</u>
2365	2369	<u>4" asphltic tuff at 2366, brn (keroqene?)</u>
2369	2371	A.A., brn, <u>F</u>
2371	2375	<u>4" asphltic tuff at 2373, VF-OS, tan, P</u>
2375	2378	Med gry, <u>M</u>
2378	2380	<u>3" bleeding block asphltic tuff at 2379, blk, Rich</u>
2380	2388	<u>VF-OS at 2380-81, med gry to brn, M</u>
2388	2391	Tan, <u>P</u>
2391	2392	Blk, <u>R</u>
2392	2393	Lt gry, <u>M</u>
2393	2395	<u>2" asphaltic tuff at 2393, blk, Rich</u>
2395	2399	<u>VF w/O.S., lt gry & tan, F</u>
2399	2412	No recovery
2412	2415	<u>VF, asphaltic tuff, tan, P</u>
2415	2417	Blk, <u>Rich</u>
2417	2474	Core #12 Recovered 56'
2417	2419	Drk gry to med gry, <u>Rich</u>
2419	2422	Med gry, <u>F</u>
2422	2427	Lt gry, <u>P</u>
2427	2433	Tan-lt brn, <u>P-F</u>
2433	2434	Tan, <u>P</u>
2434	2435	Tr bleeding, brn, <u>F</u>
2435	2436	Tan, <u>P</u>

<u>FROM</u>	<u>TO</u>	<u>DESCRIPTION</u>
		Core #12 (cont'd)
2436	2439	Blk, <u>R-VR</u>
2439	2442	Med-lt g ry, <u>F</u>
2442	2444	Tan-lt brn <u>P-F</u>
2444	2446	Tan-buff, <u>P</u>
2446	2448	Lt gry, <u>P</u>
2448	2450	<u>2" bleeding tuff</u> or Ss (2), lt brn, <u>M-P</u>
2450	2451- $\frac{1}{2}$	Buff, <u>Nil</u>
2451- $\frac{1}{2}$	2453	Blk, <u>Rich</u>
2453	2455	Blk, <u>M-R</u>
2455	2456	Lt gry, <u>P-Nil</u>
2456-1	2457-1	Ss or <u>tuff</u>
2457	2460	Chalk, lt gry, <u>Nil</u>
2460	2461	<u>1/2' Ss or tuff</u> , 1/2' interbedded
2461	2473	Marlstn w/ <u>2" tuff at 62</u> , lt gry, <u>Nil</u>
2474	2534	Core #13 Recovered 34'
2474	2485	Lt gry, <u>P</u>
2485	2488	Med gry, varied w/brn, <u>VP</u>
2488	2493	Lt gry-varied w/brn, <u>VP</u>
2493	2508	Lt gry, <u>Nil-VP</u>