

Log - Ogden to Wahsatch

X-50 Gas Turbine Locomotive
 with Helper 3984 - Data Taken
 Only on Helper in rear. Train
 3/4 mi. long
 Average elevation 5600 ft.

<u>Mile Post</u>	<u>MPH</u>	<u>P.M.</u>	
993	Start	3:03	J Spoker, Engineer, 3984
991 (rear of old yard)			A. Mulhall, Fireman
End of Block		3:13	Ambient 50° F.
988	39	3:20	Train 80 loads, 2 empties, 1 private
986	29	3:23	car, 2 cabooses, 4325 tons.
984	23	3:28	
981	25	3:36	
980	34	3:38	Steam 3984
978	44	3:42	Water tank 25,000 gal. filled
975	45	3:45	" " remained 1 ft in bottom
970	43	3:52	Estimate consumption 24,000 gal
(968	44	3:56	30.2 Avg MPH - 62 Mi 2.05 hrs
(Morgan			Fuel oil start 5337 gal. Steam
(964	38	4:01	" " end 3468 "
(Tunnel #9			" " used 1869 "
(963.2	38	4:02	
(Tunnel #8			Assume steam 1/2 of eff. of X-50
(957	47	4:11	Steam used full throttle from
(Henefer			3:13 to 5:16 - 2.05 hrs
(953	37	4:17	1869 / 2.05 = 910 gal. per hr.
(Echo			1869 (2.05 x .228) = 4000 HP
949	23	4:27	Avg. about 2/3 Max
(943	30	4:39	
(Emory (Amb 40° F)			X-50
(936	22	4:56	
(Castle Rock			Gas turbine loco had full throttle
(In Tunnel #6			from 3:05 to 5:16 - 2.18 hrs.
(931.6	22	5:10	Gas turbine end 13012 bbls metered
931	22	5:11	" " start 12982 " "
(In Tunnel #5			" " used 30 " "
(930.4	22	5:12	30 x 42 = 1260 gal.
930	22	5:13	Minus 5% 63 for temp correction
929	22	5:16	1197 gal used
927.6	16	5:19	
927.5	0	5:20	1197/2.18 = 550 gal per hr
(Amb 30°)			1197 (2.18 x 4800) = .114 gal/HP/hr
			Gas turbine eff. = 14.4%
			$\frac{2545 \times 4800}{550 \times 8 \times 19,400} = 14.4\%$

April 3, 1950

Test of X-50 East of Laramie

Train 76 loads, 2 empties, including private car, 4338 tons (iced)

Sunshine - good rail

<u>Elevation</u>	<u>Mile Post</u>	<u>T.N.</u>	<u>M.P.H.</u>	<u>Cur.</u>	<u>Fuel Meter</u>	<u>Fuel Used</u>	<u>Time P.M.</u>
7210	0 564	20	16	1000	13157.1	0	1:03:15
	1 563	20	16	1000	57.9	.8	1:06:45
	2 562	20	16	1000	58.7	.8	1:10:30
	3 561	20	16	1000	59.5	.8	1:14:17
	4 560	20	16	1000	60.3	.8	1:18:00
	5 559	20	16	1000	61.1	.8	1:21:48
	6 558	20	16	1000	61.9	.8	1:25:30
	7 557	20	16	1000	62.7	.8	1:29:05
	8 556	20	16	1000	63.5	.8	1:32:57
7520	9 555	20	16	1000	13164.3	.8	1:36:42
			9/.56 = 16 MPH		Bal.	7.2	33.45 min .56 hr

Avg Altitude 7336 ft
Ambient Temp 30°F.

7.2 x 42 = 302.4 gal in .56 hrs
(1 hr = 540 gal.)
302.4 x .047% = 14.2

.56 hrs = 288.2 gal corrected value
1 hr = 515 gal.

April 4, 1950

R. Tom Sawyer