



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May 25, 1994

Hanson Operating Company
P.O. Box 1515
Roswell, NM 88202

Attention: David Sweeney

***RE: Injection Pressure Increase Benson Shugart Unit
Waterflood Project, Eddy County, New Mexico***

Dear Mr. Sweeney:

Reference is made to your request dated April 29, 1994, to increase the surface injection pressure on two wells within the Benson-Shugart Unit Waterflood Project. This request is based on step rate tests conducted on these wells between April 25 and 26, 1994. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

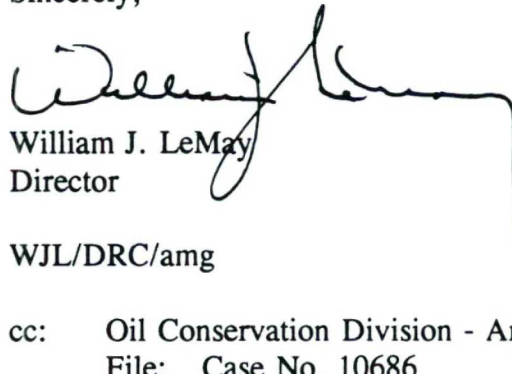
You are therefore authorized to increase the surface injection pressure on the following wells:

Well and Location	Maximum Injection Surface Pressure
Benson Shugart Unit No. 19 Unit N, Section 25, Township 18 South, Range 30 East	1670 PSIG
Benson Shugart Unit No. 30 Unit M, Section 30, Township 18 South, Range 31 East	1230 PSIG
Both wells located in Eddy County, New Mexico.	

*Injection Pressure Increase
Hanson Operating Company
May 25, 1994
Page 2*

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

A handwritten signature in black ink, appearing to read 'William J. LeMay', with a long horizontal line extending to the right and a vertical line dropping down from the end.

William J. LeMay
Director

WJL/DRC/amg

cc: Oil Conservation Division - Artesia
File: Case No. 10686
R. Brown

NO WAITING PERIOD

COMPANY: Hanson Operating Company
ADDRESS: P.O. Box 1515
CITY, STATE, ZIP: Roswell, New Mexico 88202
ATTENTION: David Sweeney

Re: Injection Pressure Increase

Benson Shogart Unit
Waterlood Project
Eddy County, New Mexico

Dear Sir:

Reference is made to your request dated April 29, 1994, to increase the surface injection pressure on two wells within the Benson - Shogart Unit Waterlood Project. This request is based on step rate tests conducted on these wells April 25-26, 1994. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following wells:

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
<u>Benson Shogart Unit No. 19</u> <u>Unit N, Section 25, T-18 S, R-30 E, 1000'</u>	<u>1670 PSIG</u>
<u>Benson Shogart Unit No. 30</u> <u>Unit M, Section 30, T-18 S, R-31 E, 1000'</u>	<u>1230 PSIG</u>
<u>Eddy County, New Mexico</u>	

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

xc: T. GALLEGOS D. CATANACH FILE- Case No. 10686 OCD- Artesia
R. Brann



HANSON OPERATING COMPANY, INC.

P.O. BOX 1515

ROSWELL, NEW MEXICO 88202-1515

PHONE AC 505-622-7330

April 29, 1994

David Catanach
State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Benson Shugart Waterflood
Unit
Case # 10686
Order # R-9895

Dear Mr. Catanach:

Enclosed are two(2) Step Rate Test and a copy of a computer disk of the test for the Benson Shugart Waterflood Unit, Wells #19 and #30. Hanson Operating Company, Inc. is requesting after your review, an increase in pressure from the original pressure indicated in the Order #R-9895 on the Pueblo Federal #1(now known as the B.S.W.U. #30) and the Ute Federal #1(now known as the B.S.W.U. #19). We were allowed a maximum surface injection pressure of 495 PSI for both of these wells. These two(2) test were witnessed by Mike Stubbelfield with the New Mexico Oil Conservation Division from the Artesia Office.

If you have any further questions regarding this test, please feel free to contact me.

Sincerely,

David Sweeney
Drilling & Production Superintendent

DS/pm

WEST-TEST, INC.
A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

OIL CONSERVATION DIVISION
RECEIVED

'94 MAY 2 AM 8 50

STEP RATE INJECTION TEST

CLIENT: HANSON OPERATING COMPANY

DATE: APRIL 26, 1994

WELL NAME: B.S.W.U. NO. 30
EDDY COUNTY, NEW MEXICO

WO#: 94-14-0655

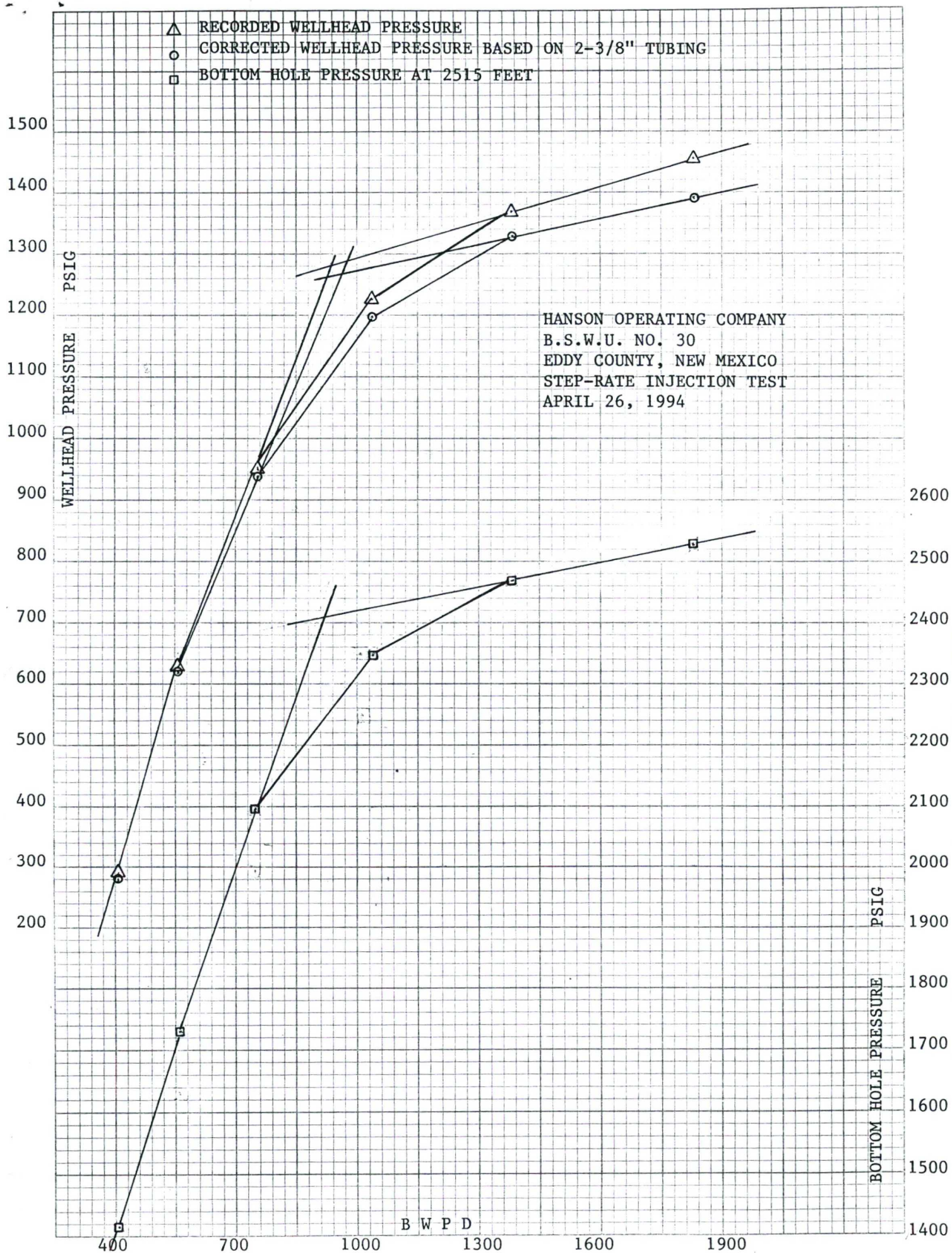
MID-PERFS. = 2469-2554

PACKER DEPTH = 2400

BHP GAUGE DEPTH = 2515

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/24.2857	(7) MEASURED BHP (psi)
	8:00	24.5				24.5		846.3
	8:05	11.4	7.0	2016.0	79.376	-68.0	58.80	974.3
	8:10	11.1	14.3	2102.4	85.784	-74.7	61.32	1118.5
	8:15	27.4	17.4	892.8	17.590	9.8	26.04	1188.7
	8:20	29.7	18.1	201.6	1.121	28.6	5.88	1193.3
	8:25	30.7	18.3	57.6	0.110	30.6	1.68	1195.2
	8:30	30.6	18.5	57.6	0.110	30.5	1.68	1195.4
			TUBING LOADED - BEGIN TEST					
	8:35	76.3	1.5	432.0	4.592	71.7	12.60	1240.8
	8:40	124.6	2.9	403.2	4.042	120.6	11.76	1278.7
	8:45	183.1	4.3	403.2	4.042	179.1	11.76	1318.2
	8:50	158.8	5.6	374.4	3.524	155.3	10.92	1347.0
	8:55	231.5	6.9	374.4	3.524	228.0	10.92	1379.9
1	9:00	282.5	8.4	432.0	4.592	277.9	12.60	1416.0
				403.2				
	9:05	258.2	10.4	576.0	7.819	250.4	16.80	1472.8
	9:10	457.5	12.3	547.2	7.111	450.4	15.96	1523.9
	9:15	384.6	14.2	547.2	7.111	377.5	15.96	1572.5
	9:20	481.6	16.2	576.0	7.819	473.8	16.80	1622.0
	9:25	642.7	18.1	547.2	7.111	635.6	15.96	1678.0
2	9:30	626.0	20.0	547.2	7.111	618.9	15.96	1728.3
				556.8				
	9:35	680.9	22.7	777.6	13.623	667.3	22.68	1813.2
	9:40	753.7	25.4	777.6	13.623	740.1	22.68	1880.8
	9:45	781.7	28.0	748.8	12.705	769.0	21.84	1942.7
	9:50	845.5	30.6	748.8	12.705	832.8	21.84	2002.1
	9:55	927.2	33.1	720.0	11.815	915.4	21.00	2050.0
3	10:00	952.8	35.8	777.6	13.623	939.2	22.68	2097.1
				758.4				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbis)	(3) INJECTION RATE (bbis/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
4	10:05	1051.2	39.4	1036.8	23.196	1028.0	30.24	2171.7
	10:10	1109.9	43.0	1036.8	23.196	1086.7	30.24	2222.6
	10:15	1159.7	46.6	1036.8	23.196	1136.5	30.24	2265.3
	10:20	1185.2	50.2	1036.8	23.196	1162.0	30.24	2297.3
	10:25	1209.5	53.7	1008.0	22.018	1187.5	29.40	2322.8
	10:30	1223.5	57.4	1065.6	24.402	1199.1	31.08	2347.4
				1036.8				
	10:35	1288.7	62.3	1411.2	41.032	1247.7	41.16	2387.5
	10:40	1323.2	67.1	1382.4	39.496	1283.7	40.32	2412.1
	10:45	1333.6	72.0	1411.2	41.032	1292.6	41.16	2431.7
5	10:50	1355.7	76.8	1382.4	39.496	1316.2	40.32	2445.6
	10:55	1356.1	81.6	1382.4	39.496	1316.6	40.32	2456.9
	11:00	1369.1	86.3	1353.6	37.987	1331.1	39.48	2466.7
				1387.2				
	11:05	1420.2	93.0	1929.6	73.198	1347.0	56.28	2492.8
	11:10	1427.4	99.0	1728.0	59.681	1367.7	50.40	2505.8
	11:15	1470.5	105.4	1843.2	67.250	1403.3	53.76	2514.0
	11:20	1429.2	111.8	1843.2	67.250	1362.0	53.76	2520.2
	11:25	1467.4	118.2	1843.2	67.250	1400.2	53.76	2523.3
	11:30	1458.4	124.5	1814.4	65.319	1393.1	52.92	2526.5
6 FALLOFF				1833.6				
	11:31	1364.9				1364.9		2503.6
	11:32	1349.5				1349.5		2491.2
	11:33	1339.2				1339.2		2481.4
	11:34	1330.3				1330.3		2472.4
	11:35	1322.0				1322.0		2462.5
	11:40	1300.8				1300.8		2442.8
	11:45	1289.2				1289.2		2431.2



WEST-TEST, INC.

A SUBSIDIARY OF JOHN WEST ENGINEERING COMPANY
Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: HANSON OPERATING COMPANY

DATE: APRIL 25, 1994

WELL NAME: B.S.W.U. NO. 19
EDDY COUNTY, NEW MEXICO

WO#: 94-14-0654

MID-PERFS. = 2465-2487

PACKER DEPTH = 2404

BHP GAUGE DEPTH = 2476

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	8:50	30.2				30.2		370.9
	8:55	16.2	1.9	547.2	7.001	9.2	15.96	392.4
	9:00	12.4	4.0	604.8	8.425	4.0	17.64	420.6
	9:05	11.1	6.5	720.0	11.632	-0.5	21.00	438.1
	9:10	12.5	9.0	720.0	11.632	0.9	21.00	456.7
	9:15	11.3	11.7	777.6	13.412	-2.1	22.68	474.0
	9:20	12.5	14.3	748.8	12.508	-0.0	21.84	492.9
				686.4				
	9:25	12.4	18.9	1324.8	35.940	-23.5	38.64	533.9
	9:30	12.5	22.9	1152.0	27.751	-15.3	33.60	573.2
2	9:35	12.6	26.9	1152.0	27.751	-15.2	33.60	613.3
	9:40	12.6	30.9	1152.0	27.751	-15.2	33.60	660.9
	9:45	12.5	35.0	1180.8	29.048	-16.5	34.44	723.9
	9:50	12.3	39.0	1152.0	27.751	-15.5	33.60	798.6
				1185.6				
	9:55	12.2	48.0	2592.0	124.400	-112.2	75.60	1046.2
	10:00	184.1	55.0	2016.0	78.145	106.0	58.80	1237.6
	10:05	436.9	61.0	1728.0	58.756	378.1	50.40	1474.9
	10:10	600.4	67.7	1929.6	72.063	528.3	56.28	1665.2
	10:15	742.1	74.3	1900.8	70.085	672.0	55.44	1821.6
3	10:20	883.8	80.9	1900.8	70.085	813.7	55.44	1954.8
				2011.2				
	10:25	1151.0	89.4	2448.0	111.917	1039.1	71.40	2166.6
	10:30	1289.1	97.7	2390.4	107.094	1182.0	69.72	2297.3
	10:35	1368.4	106.3	2476.8	114.365	1254.0	72.24	2365.8
	10:40	1474.6	114.6	2390.4	107.094	1367.5	69.72	2450.7
	10:45	1547.7	122.9	2390.4	107.094	1440.6	69.72	2516.3
	10:50	1597.5	131.3	2419.2	109.493	1488.0	70.56	2569.7
				2419.2				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1) - (4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
5	10:55	1711.6	141.3	2880.0	151.172	1560.4	84.00	2636.1
	11:00	1760.7	151.1	2822.4	145.626	1615.1	82.32	2686.6
	11:05	1780.1	160.9	2822.4	145.626	1634.5	82.32	2718.3
	11:10	1805.5	170.7	2822.4	145.626	1659.9	82.32	2743.5
	11:15	1832.1	180.5	2822.4	145.626	1686.5	82.32	2762.2
	11:20	1835.6	190.4	2851.2	148.387	1687.2	83.16	2777.6
				2836.8				
	11:25	1888.0	201.5	3196.8	183.366	1704.6	93.24	2803.7
	11:30	1896.7	212.7	3225.6	186.434	1710.3	94.08	2823.0
	11:35	1919.6	224.0	3254.4	189.525	1730.1	94.92	2837.4
6	11:40	1943.9	235.0	3168.0	180.322	1763.6	92.40	2851.1
	11:45	1931.1	246.2	3211.2	184.897	1746.2	93.66	2859.9
	11:50	1969.5	257.3	3211.2	184.897	1784.6	93.66	2871.2
				3211.2				
	11:55	2038.5	269.9	3628.8	231.823	1806.7	105.84	2892.2
	12:00	2061.6	282.4	3600.0	228.431	1833.2	105.00	2908.3
	12:05	2066.7	294.7	3542.4	221.716	1845.0	103.32	2916.5
	12:10	2085.8	307.1	3571.2	225.062	1860.7	104.16	2923.8
	12:15	2085.7	319.6	3600.0	228.431	1857.3	105.00	2928.7
	12:20	2089.5	332.1	3600.0	228.431	1861.1	105.00	2933.4
FALLOFF				3590.4				
	12:21	1762.9				1762.9		2889.4
	12:22	1739.8				1739.8		2867.5
	12:23	1720.6				1720.6		2847.9
	12:24	1701.4				1701.4		2830.0
	12:25	1684.7				1684.7		2812.9
	12:30	1608.0				1608.0		2736.4
	12:35	1540.2				1540.2		2667.9

