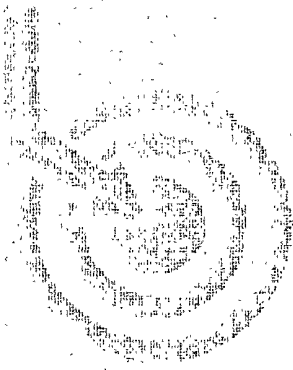


30-015-36722



Scientific Drilling

EOG

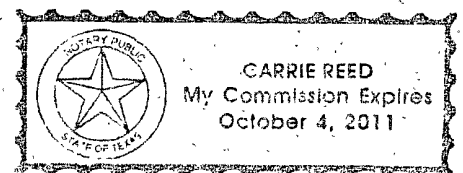
Field: Southeast Quahada Ridge
Site: Eddy County, NM
Well: James Ranch Unit #112H
Wellpath: VH - Job #32K0109030
Survey: 01/16/09

This survey is correct to the best of my knowledge
and is supported by actual field data.

K. L. Hester Company Representative

Notorized this date Feb of February, 2009.

Carrie Reed
Notary Signature
County of Midland
State of Texas



Scientific Drilling International
Survey Report

Company: EOG Date: 01/21/2009 Time: 11:41:13 Page: 1
 Field: Southeast Quahada Ridge Co-ordinate(NE) Reference: Site: Eddy County, NM. Grid North
 Site: Eddy County, NM Vertical (TVD) Reference: SITE 0.0
 Well: James Ranch Unit #112H Section (VS) Reference: Well (0.00N,0.00E 93.37Azi)
 Wellpath: VH - Job #32K0109030 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 01/16/09 Start Date: 01/16/2009
 Company: Scientific Drilling Internatio Engineer: Pena w/GeoGyro
 Tool: Keeper.Keeper Surface Readout Gyro Tied-to: From Surface

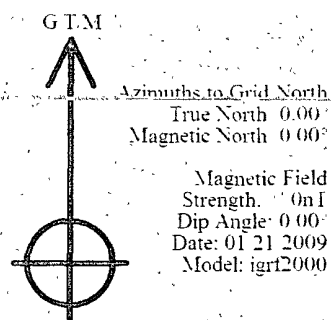
Survey

VID ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0 00	0 00	359.73	0.00	0 00	0 00	0 00	0 00	0.00	0.00
100.00	0 49	152.37	100.00	0.22	-0.38	0 20	0.49	0.43	152.37
200.00	0 29	238.58	200.00	0.23	-0.89	0 18	0.55	0.91	168.52
300.00	0 51	197.78	299.99	-0.09	-1.45	-0.17	0.35	1.46	186.76
400.00	0 63	136.92	399.99	0.20	-2.27	0 07	0 59	2 27	178.28
500.00	0 50	56.14	499.99	0.95	-2.43	0 81	0.74	2 56	161.64
600.00	0 58	355.74	599.98	1.23	-1 68	1.13	0.55	2 03	146.07
700.00	0 86	330.08	699.98	0.75	-0.53	0.72	0.42	0.89	126.19
800.00	0 78	296.92	799.97	-0.29	0.43	-0.26	0.47	0.51	328.77
900.00	0 35	233.99	899.96	-1.15	0.56	-1.12	0.69	1.25	296.69
1000.00	0 38	173.96	999.96	-1.33	0.05	-1.33	0.37	1.33	272.23
1100.00	0 50	138.87	1099.96	-0.97	-0.61	-1.01	0.29	1.18	238.92
1200.00	0 62	142.54	1199.95	-0.31	-1.36	-0.39	0.13	1.42	195.96
1300.00	0 76	155.50	1299.95	0.35	-2.40	0 21	0 21	2.41	174.91
1400.00	0 92	129.49	1399.93	1.31	-3.51	1.11	0.41	3.68	162.48
1500.00	1 32	141.22	1499.92	2.73	-4.92	2.45	0.46	5.50	153.54
1600.00	1.46	169.43	1599.89	3.81	-7.07	3.40	0.69	7.85	154.29
1700.00	1.54	142.75	1699.85	5.00	-9.39	4.45	0.70	10.39	154.64
1800.00	1.71	163.04	1799.81	6.39	-11.89	5.70	0.60	13.19	154.39
1900.00	1.61	165.00	1899.77	7.35	-14.67	6.50	0.11	16.05	156.11
2000.00	1 44	158.87	1999.74	8.31	-17.20	7.32	0 24	18.69	156.96
2100.00	1 99	122.30	2099.70	10.35	-19.30	9.24	1.20	21.40	154.43
2200.00	2.27	109.09	2199.63	13.78	-20.88	12.58	0.56	24.37	148.94
2300.00	2.70	104.95	2299.53	17.99	-22.13	16.72	0.47	27.74	142.93
2400.00	2.49	93.38	2399.43	22.47	-22.87	21.17	0.56	31.16	137.21
2500.00	2.85	108.38	2499.32	27.05	-23.78	25.69	0.78	35.01	132.79
2600.00	2.00	135.92	2599.24	30.73	-25.82	29.27	1.42	39.03	131.42
2700.00	1.61	116.30	2699.19	33.31	-27.69	31.74	0.73	42.12	131.11
2800.00	1.48	145.94	2799.15	35.39	-29.39	33.72	0.80	44.73	131.07
2900.00	1.07	137.16	2899.13	36.85	-31.14	35.08	0.45	46.91	131.59
3000.00	1.78	139.36	2999.10	38.60	-33.00	36.73	0.71	49.38	131.94
3100.00	4.28	132.09	3098.95	42.60	-36.68	40 51	2.52	54.65	132.16
3200.00	4.79	133.11	3198.63	48.72	-42.04	46.33	0.52	62.56	132.22
3300.00	4 37	134.77	3298.32	54.79	-47.58	52.08	0.44	70.54	132.41
3400.00	4.86	140.51	3397.99	60.53	-53.53	57.48	0.67	78.54	132.96
3500.00	5.17	138.35	3497.61	66.59	-60.16	63.17	0.36	87.23	133.61
3600.00	6 21	138.23	3597.11	73.61	-67.56	69.76	1.04	97.12	134.08
3665.00	6.79	137.50	3661.70	78.86	-73.02	74.70	0.90	104.46	134.35

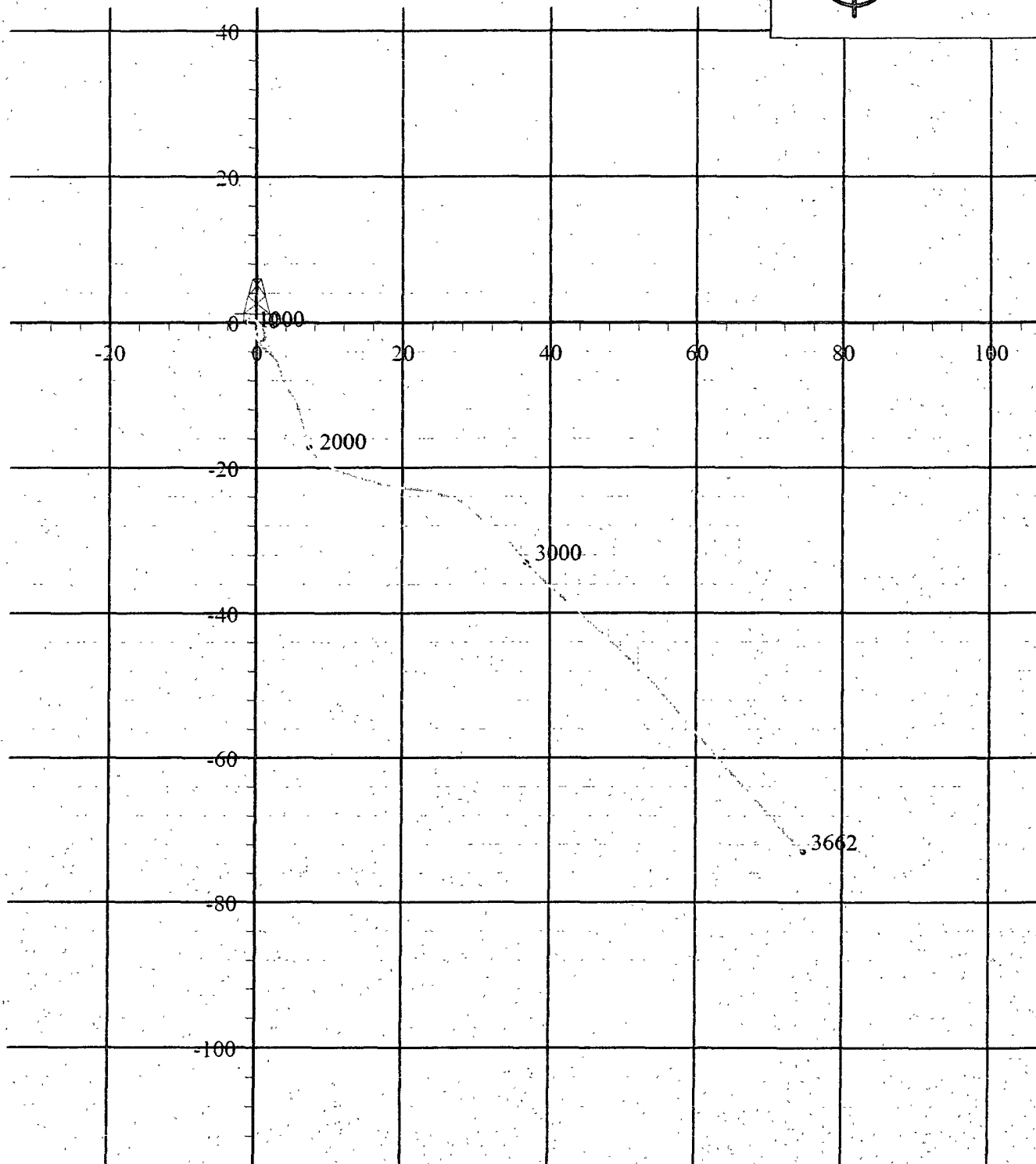


Scientific
Drilling

Field: Southeast Quahada Ridge
Site: Eddy County, NM
Well: James Ranch Unit #112H
Wellpath: VH - Job #32K0109030
Survey: 01/16/09



South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]

~Version Information

VERS. 2.00: PATHFINDER ENERGY SERVICES LAS - Version 2.00
 WRAP. NO: One line per depth step

~Well Information

STRT.FT 0.0000:
 STOP.FT 12100.0000:
 STEP.FT 0.0000:
 NULL. -999.25:
 COMP. EOG RESOURCES INC.: COMPANY
 WELL. JAMES RANCH UNIT 112H: WELL
 FLD. SOUTHEAST QUAHADA RIDGE - DELAWARE: FLD
 SRVC. Pathfinder Energy Services: SERVICE COMPANY
 LOC. : LOCATION
 DATE. 28-Jan-09: LOG DATE
 UWI. 30-015-36722: API NUMBER
 APD.FT 18.00: ELEVATION ABOVE PERMANENT DATUM
 CNTY. EDDY: COUNTY
 CTRY. USA: COUNTRY
 DMF. ROTARY TABLE: DRILLING-LOG MEASURED FROM
 EPD.FT 3313.30: ELEVATION OF PERMANENT DATUM
 FL1. 500'FSL 200'FEL: WELL LOCATION 1
 FL2. X; 656755.2 Y; 488709.7: WELL LOCATION 2
 PDAM. GROUND LEVEL - MEAN SEA LEVEL: ELEVATION OF PERMANENT DATUM REF
 PDAT. GROUND LEVEL: PERMANENT DATUM
 RANG. 30 EAST: RANGE
 SECT. 036: SECTION
 STAT. NM: STATE
 TOWN. 22 SOUTH: TOWNSHIP

~Parameter Information

BHB1.IN 17 1/2: BOREHOLE REC; BIT 1
 BHF1.FT 0: BOREHOLE REC; FROM 1
 BHO1.FT 655: BOREHOLE REC; TO 1
 BHB2.IN 12 1/4: BOREHOLE REC; BIT 2
 BHF2.FT 0: BOREHOLE REC; FROM 2
 BHO2.FT 3849: BOREHOLE REC; TO 2
 BHB3.IN 7 7/8: BOREHOLE REC; BIT 3
 BHF3.FT 0: BOREHOLE REC; FROM 3
 BHO3.FT 12070: BOREHOLE REC; TO 3
 CTS1.IN 13 3/8: CASING & TUBING REC; SIZE 1
 CTF1.FT 0: CASING & TUBING REC; FROM 1
 CTO1.FT 655: CASING & TUBING REC; TO 1
 CTS2.IN 8 5/8: CASING & TUBING REC; SIZE 2
 CTF2.FT 0: CASING & TUBING REC; FROM 2
 CTO2.FT 3849: CASING & TUBING REC; TO 2
 CTS3.IN 5 1/2: CASING & TUBING REC; SIZE 3
 CTF3.FT 0: CASING & TUBING REC; FROM 3
 CTO3.FT 12070: CASING & TUBING REC; TO 3
 DCOM. MCVAY: DRILLING COMPANY
 RIG. 4: DRILLING RIG
 LUN. TRAILER: LOGGING UNIT NUMBER
 DIST. WEST_Texas: DISTRICT
 SPUD. 12-JAN-09: SPUD DATE
 STDT. 21-JAN-09: START DATE
 SDEP.FT 6944: DEPTH IN
 ENDT. 28-JAN-09: LWD END DATE

EDEP.FT 12070: DEPTH OUT
TDEP.FT 12070: TOTAL DEPTH
"R010. RUN #3; 6-1/2"" HDS-1R/GAMMA LOGGING RUN.: Remarks - Line 010 "
"R011. RUN #4; 6-1/2"" HDS-1R/GAMMA LOGGING RUN.: Remarks - Line 011 "
"R012. RUN #5; 6-1/2"" HDS-1R/GAMMA LOGGING RUN.: Remarks - Line 012 "
R014. DEPART ORIGINAL WELLBORE OFF CEMENT PLUG IN OPEN HOLE AT 6943'MD (6930'TVD):. Remarks - Line 014

R002. EOG RESOURCES INC.: Remarks - Line 002
R003. PATHFINDER ENERGY TRACKING #; 101008208 WT-WT.: Remarks - Line 003
R005. ALL REFERENCES IN DEPTH TRACKING ARE AT BIT DEPTH.: Remarks - Line 005
R006. ALL LOGGING DATA IS TRANSMITTED ONLY UNLESS STATED OTHERWISE.: Remarks - Line 006
"R008. RUN #1; 6-1/5"" HDS-1R DIRECTIONAL ONLY RUN. NO LOGGING DATA ACQUIRED.: Remarks - Line 008 "
"R009. RUN #2; 6-1/2"" HDS-1R/GAMMA LOGGING RUN. NO LOGGING DATA ACQUIRED.: Remarks - Line 009 "
RA03. 3: RUN NUMBER 03
RB03. 22-JAN-09: START DATE - RUN 03
RC03. 05;15: START TIME - RUN 03
RD03. 24-JAN-09: END DATE - RUN 03
RE03. 06;45: END TIME - RUN 03
RF03.FT 6944: DEPTH IN - RUN 03
RG03.FT 7751: DEPTH OUT - RUN 03
RH03.FT 6897: LOG TOP - RUN 03
RI03.FT 7704: LOG BOTTOM - RUN 03
RJ03.IN 7 7/8: HOLE SIZE - RUN 03
RU03. C.CARSON: ENGINEER #1 - RUN 03
RV03. J.BURLESON: ENGINEER #2 - RUN 03
MB03.FT 7243: MUD DEPTH - RUN 03
MD03. WATER BASED: MUD TYPE - RUN 03
ME03.LB/GAL 9.10: DENSITY - RUN 03
MF03.S/QT 34: VISCOSITY - RUN 03
MG03. 9.0: PH - RUN 03
MM03.CM3/30 60.0: FLUID LOSS - RUN 03
MH03.PPM 61000: SALINITY - RUN 03
MK03.DEGF 119: MAX REC TEMP - RUN 03
RA04. 4: RUN NUMBER 04
RB04. 24-JAN-09: START DATE - RUN 04
RC04. 06;55: START TIME - RUN 04
RD04. 27-JAN-09: END DATE - RUN 04
RE04. 02;10: END TIME - RUN 04
RF04.FT 7751: DEPTH IN - RUN 04
RG04.FT 10498: DEPTH OUT - RUN 04
RH04.FT 7704: LOG TOP - RUN 04
RI04.FT 10451: LOG BOTTOM - RUN 04
RJ04.IN 7 7/8: HOLE SIZE - RUN 04
RU04. C.CARSON: ENGINEER #1 - RUN 04
RV04. J.BURLESON: ENGINEER #2 - RUN 04
MB04.FT 7833: MUD DEPTH - RUN 04
MD04. WATER BASED: MUD TYPE - RUN 04
ME04.LB/GAL 8.80: DENSITY - RUN 04
MF04.S/QT 38: VISCOSITY - RUN 04
MG04. 10.0: PH - RUN 04
MM04.CM3/30 12.0: FLUID LOSS - RUN 04
MH04.PPM 56000: SALINITY - RUN 04
MK04.DEGF 126: MAX REC TEMP - RUN 04
RA05. 5: RUN NUMBER 05
RB05. 27-JAN-09: START DATE - RUN 05

RC05. 02:45: START TIME - RUN 05
RD05. 28-JAN-09: END DATE - RUN 05
RE05. 23:30: END TIME - RUN 05
RF05.FT 10498: DEPTH IN - RUN 05
RG05.FT 12070: DEPTH OUT - RUN 05
RH05.FT 10451: LOG TOP - RUN 05
RI05.FT 12023: LOG BOTTOM - RUN 05
RJ05.IN 7 7/8: HOLE SIZE - RUN 05
RU05. C.CARSON: ENGINEER #1 - RUN 05
RV05. J.BURLESON: ENGINEER #2 - RUN 05
MB05.FT 10524: MUD DEPTH - RUN 05
MD05. WATER BASED: MUD TYPE - RUN 05
ME05.LB/GAL 9.20: DENSITY - RUN 05
MF05.S/QT 32: VISCOSITY - RUN 05
MG05. 10.0: PH - RUN 05
MM05.CM3/30 12.5: FLUID LOSS - RUN 05
MH05.PPM 56000: SALINITY - RUN 05
MK05.DEGF 130: MAX REC TEMP - RUN 05
TTL1. GAMMA-RAY: HEADER TITLE LINE 1
TTL2. : HEADER TITLE LINE 2
TTL3. : HEADER TITLE LINE 3
SC1. : LOG SCALE 1
"SC2. 5"" = 100' : LOG SCALE 2"
OS2. DIRECTIONAL: OTHER SERVICES LINE 2
OS3. ROP: OTHER SERVICES LINE 3

~Curve Information

DEPT.FT : MWD Tool Measurement Depth
MTVD.FT : MWD Tool Measurement TVD
INC .DEG : Inclination
AZI .DEG : Azimuth
SECT.FT : Section
RCN .FT : Rectangular Co-ordinates North
RCE .FT : Rectangular Co-ordinates East
DLSEV.DG/HFT : Dog-leg Severity

#	DEPT FT	MTVD FT	INC DEG	AZI DEG	SECT FT	RCN FT	RCE FT	DLSEV DG/HFT
#								
#								
#	Re-log Number	0	0	0	0	0	0	0
#								

~ASCII Data

3665.00	3661.69	6.79	137.50	74.93	-73.02	74.70	-999.25
3882.00	3877.67	4.22	140.00	88.78	-88.60	88.50	1.19
3976.00	3971.41	4.31	140.70	93.26	-93.98	92.96	0.11
4069.00	4064.14	4.48	144.38	97.60	-99.64	97.29	0.35
4163.00	4157.84	4.66	139.22	102.25	-105.51	101.92	0.48
4256.00	4250.53	4.66	142.10	107.06	-111.35	106.71	0.25
4350.00	4344.26	4.04	145.56	111.30	-117.10	110.93	0.72
4443.00	4437.07	3.34	122.64	115.44	-121.26	115.06	1.74
4537.00	4530.99	1.49	145.68	118.45	-123.75	118.06	2.18
4631.00	4624.96	1.41	144.67	119.81	-125.70	119.42	0.09
4724.00	4717.93	1.23	145.03	121.05	-127.45	120.65	0.19
4818.00	4811.91	1.32	159.43	122.01	-129.29	121.61	0.35
4911.00	4904.89	1.06	157.95	122.72	-131.09	122.31	0.28
5036.00	5029.86	1.32	153.05	123.81	-133.45	123.39	0.22
5161.00	5154.83	1.32	156.88	125.04	-136.05	124.61	0.07

~2090897.txt

5285.00	5278.80	1.32	147.44	126.38	-138.57	125.94	0.17
5410.00	5403.77	1.14	157.06	127.64	-140.93	127.20	0.22
5535.00	5528.71	2.37	111.09	130.55	-143.01	130.10	1.42
5628.00	5621.63	2.29	116.97	134.00	-144.54	133.55	0.27
5722.00	5715.49	3.96	103.36	138.84	-146.14	138.38	1.93
5816.00	5809.09	6.60	94.96	147.38	-147.36	146.92	2.92
5909.00	5901.47	6.60	99.30	157.99	-148.69	157.52	0.54
6003.00	5994.80	7.12	87.07	169.14	-149.26	168.67	1.65
6096.00	6087.07	7.30	86.82	180.79	-148.64	180.33	0.20
6190.00	6180.39	6.51	85.56	192.06	-147.89	191.60	0.86
6283.00	6272.83	5.98	86.64	202.15	-147.20	201.69	0.58
6375.00	6364.23	7.12	82.68	212.59	-146.20	212.13	1.33
6468.00	6456.60	6.24	84.07	223.33	-144.94	222.88	0.96
6561.00	6549.13	5.28	81.94	232.59	-143.82	232.14	1.06
6655.00	6642.64	6.42	91.49	242.13	-143.35	241.68	1.59
6748.00	6735.07	6.24	95.17	252.36	-143.94	251.91	0.48
6842.00	6828.53	6.07	94.00	262.41	-144.74	261.95	0.23
6934.00	6920.01	6.16	94.34	272.18	-145.46	271.73	0.10
6967.00	6952.73	8.71	96.57	276.43	-145.88	275.98	7.77
6998.00	6983.23	11.70	98.48	281.88	-146.61	281.42	9.70
7029.00	7013.37	15.30	99.45	289.03	-147.74	288.57	11.64
7061.00	7043.93	19.17	99.87	298.38	-149.34	297.91	12.10
7092.00	7072.92	22.25	99.09	309.20	-151.14	308.72	9.98
7123.00	7101.37	24.53	98.82	321.36	-153.05	320.88	7.36
7154.00	7129.30	26.91	97.73	334.68	-154.98	334.19	7.83
7185.00	7156.57	29.90	96.45	349.31	-156.80	348.82	9.84
7215.00	7182.28	32.10	95.72	364.68	-158.43	364.19	7.44
7246.00	7208.30	33.77	94.75	381.47	-159.97	380.97	5.65
7277.00	7233.76	35.79	93.61	399.11	-161.25	398.60	6.85
7308.00	7258.53	38.08	93.23	417.71	-162.36	417.20	7.42
7340.00	7283.28	40.63	91.55	437.98	-163.20	437.47	8.64
7371.00	7306.38	43.00	89.97	458.64	-163.46	458.13	8.37
7403.00	7329.38	45.11	89.39	480.89	-163.34	480.38	6.71
7434.00	7350.79	47.48	89.63	503.30	-163.15	502.79	7.66
7465.00	7371.19	50.21	90.09	526.64	-163.09	526.13	8.88
7496.00	7390.40	53.20	91.01	550.96	-163.33	550.45	9.92
7528.00	7409.14	55.13	91.09	576.90	-163.81	576.39	6.04
7559.00	7426.37	57.33	89.98	602.67	-164.04	602.16	7.70
7590.00	7442.76	58.83	88.93	628.98	-163.79	628.47	5.63
7621.00	7458.27	61.11	88.22	655.80	-163.12	655.30	7.62
7652.00	7472.91	62.52	87.55	683.11	-162.11	682.60	4.93
7683.00	7486.56	65.25	86.00	710.89	-160.54	710.39	9.88
7714.00	7498.60	69.03	84.91	739.35	-158.28	738.86	12.62
7745.00	7508.78	72.63	84.98	768.50	-155.70	768.02	11.62
7776.00	7517.44	74.92	85.01	798.15	-153.10	797.67	7.39
7807.00	7524.95	77.03	85.38	828.11	-150.58	827.64	6.90
7838.00	7531.19	79.76	84.53	858.34	-147.91	857.88	9.21
7869.00	7535.83	83.01	84.51	888.84	-144.98	888.39	10.48
7901.00	7539.53	83.71	84.29	920.46	-141.88	920.02	2.29
7932.00	7542.88	83.89	84.30	951.12	-138.82	950.69	0.58
8025.00	7549.93	87.41	84.84	1043.39	-130.04	1042.99	3.83
8118.00	7553.00	88.81	87.22	1136.09	-123.61	1135.71	2.97
8211.00	7554.14	89.78	87.80	1228.98	-119.57	1228.61	1.22
8305.00	7558.32	85.12	85.98	1322.70	-114.48	1322.35	5.32
8399.00	7565.81	85.74	85.34	1416.11	-107.39	1415.78	0.95

~2090897.txt

8492.00	7571.44	87.32	85.61	1508.62	-100.07	1508.32	1.72
8586.00	7575.26	88.02	85.76	1602.26	-93.00	1601.97	0.76
8679.00	7577.40	89.34	87.65	1695.06	-87.66	1694.79	2.48
8774.00	7577.92	90.04	88.00	1789.97	-84.05	1789.72	0.82
8868.00	7578.71	88.99	87.48	1883.88	-80.34	1883.64	1.25
8962.00	7581.53	87.58	85.60	1977.65	-74.67	1977.42	2.50
9055.00	7585.03	88.11	83.60	2070.13	-65.93	2069.94	2.22
9149.00	7588.63	87.49	83.18	2163.41	-55.12	2163.24	0.80
9243.00	7593.04	87.14	83.54	2256.64	-44.26	2256.51	0.53
9336.00	7596.40	88.72	85.16	2349.09	-35.11	2348.99	2.43
9430.00	7597.19	90.31	87.38	2442.86	-29.00	2442.78	2.90
9524.00	7596.68	90.31	86.48	2536.71	-23.96	2536.64	0.96
9617.00	7595.39	91.28	85.62	2629.45	-17.56	2629.41	1.39
9710.00	7593.46	91.10	86.45	2722.19	-11.13	2722.17	0.91
9804.00	7592.45	90.13	87.03	2816.01	-5.78	2816.01	1.20
9898.00	7592.96	89.25	87.28	2909.88	-1.12	2909.89	0.97
9992.00	7596.00	87.05	86.83	3003.68	3.71	3003.71	2.39
10086.00	7600.18	87.85	89.22	3097.52	6.94	3097.55	2.68
10180.00	7603.13	88.55	90.01	3191.47	7.58	3191.50	1.12
10273.00	7605.56	88.46	90.90	3284.43	6.84	3284.47	0.96
10367.00	7608.81	87.58	89.93	3378.37	6.16	3378.41	1.39
10460.00	7611.73	88.81	90.76	3471.32	5.60	3471.36	1.59
10553.00	7615.52	86.53	89.86	3564.24	5.09	3564.27	2.64
10647.00	7620.92	86.88	89.36	3658.08	5.73	3658.11	0.65
10739.00	7626.82	85.76	88.93	3749.87	7.10	3749.91	1.30
10833.00	7632.36	87.49	88.62	3843.68	9.11	3843.73	1.87
10927.00	7635.32	88.90	87.18	3937.55	12.55	3937.61	2.14
11020.00	7637.10	88.90	87.45	4030.42	16.91	4030.49	0.29
11114.00	7638.11	89.87	86.66	4124.27	21.74	4124.36	1.33
11209.00	7640.30	87.49	84.94	4218.96	28.69	4219.07	3.09
11305.00	7643.54	88.64	85.48	4314.54	36.70	4314.68	1.32
11400.00	7644.49	90.22	84.14	4409.11	45.30	4409.28	2.18
11494.00	7644.49	89.78	82.73	4502.46	56.04	4502.66	1.57
11588.00	7645.28	89.25	82.46	4595.63	68.16	4595.87	0.63
11715.00	7644.41	91.54	82.98	4721.55	84.25	4721.84	1.85
11842.00	7641.77	90.84	81.64	4847.32	101.24	4847.66	1.19
11996.00	7644.71	86.97	79.45	4999.08	126.52	4999.51	2.89
12070.00	7648.62	86.97	79.45	5071.69	140.05	5072.15	0.00