



Job Number:
 Company: TEXACO E&P
 Lease/Well: VGVWU #94
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 RKB:
 G.L. or M.S.L.:

State/Country: NEW MEXICO
 Declination: 9:11368
 Grid:
 File name: D:\DATA\TEXACO-1\GVWU\GVWU_94\GVWU94.SVY
 Date/Time: 18-Mar-98 / 16:31
 Curve Name: NORTHEAST (LOWER) LATERAL (REV.1) - 3/18/98

PHOENIX DRILLING SERVICES, INC.

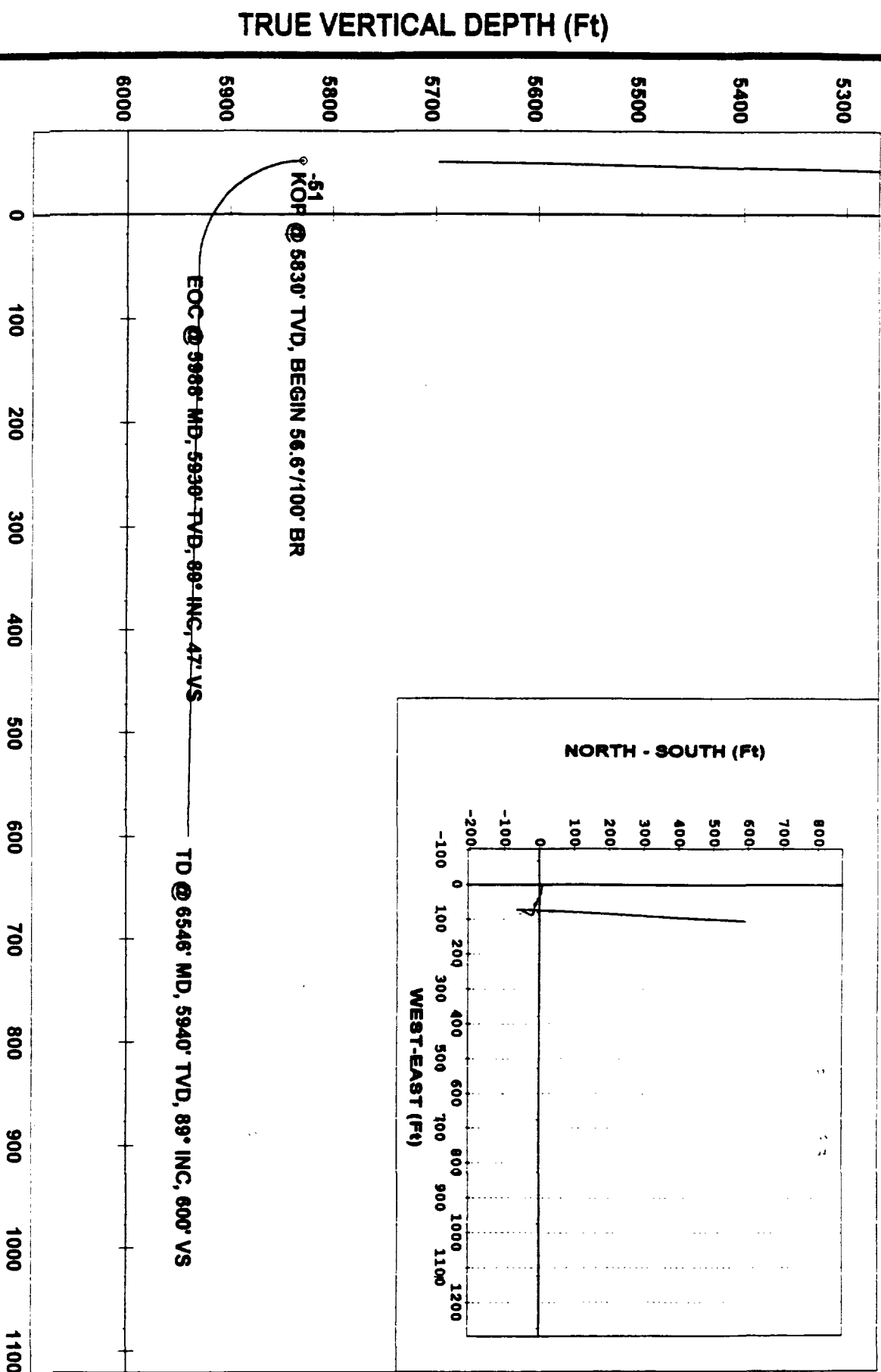
WINSERVE SURVEY CALCULATIONS Minimum Curvature Method Vertical Section Plane 10.00 Vertical Section Referenced to Wellhead Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Distance FT	CLOSURE Direction Deg	Dogleg Severity Deg/100
KOP @ 5830' TVD, BEGIN 56.6' 100' BR									
5832.50	7.3	2.82	5830.12	-64.83	71.88	-51.36	96.80	132.05	.00
5842.50	6.39	2.82	5840.10	-64.21	71.91	-50.75	96.41	131.76	56.62
5852.50	12.05	2.82	5849.96	-62.61	71.99	-49.16	95.41	131.01	56.62
5862.50	17.72	2.82	5859.62	-60.04	72.12	-46.61	93.84	129.78	56.62
5872.50	23.38	2.82	5868.98	-56.54	72.29	-43.13	91.77	128.03	56.62
5882.50	29.04	2.82	5877.95	-52.13	72.51	-38.75	89.30	125.72	56.62
5892.50	34.70	2.82	5886.44	-46.86	72.77	-33.51	86.55	122.78	56.62
5902.50	40.37	2.82	5894.37	-40.78	73.06	-27.47	83.67	119.17	56.62
5912.50	46.03	2.82	5901.65	-33.94	73.40	-20.68	80.87	114.82	56.62
5922.50	51.69	2.82	5908.23	-26.42	73.77	-13.21	78.36	109.71	56.62

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
5932.50	57.35	2.82	5914.03	-18.29	74.17	-5.14	76.39	103.85	56.62
5942.50	63.02	2.82	5919.00	-9.63	74.60	3.47	75.22	97.36	56.62
5952.50	68.68	2.82	5923.09	-.52	75.05	12.52	75.05	90.40	56.62
5962.50	74.34	2.82	5926.26	8.95	75.51	21.92	76.04	83.24	56.62
5972.50	80.00	2.82	5928.48	18.68	75.99	31.59	78.26	76.19	56.62
5982.50	85.67	2.82	5929.73	28.59	76.48	41.43	81.65	69.50	56.62
EOC @ 5988' MD, 5930' TVD, 89° INC, 47' VS									
5988.35	88.97	2.82	5930.00	34.43	76.77	47.23	84.13	65.85	56.49
6088.35	88.97	2.82	5931.80	134.29	81.69	146.43	157.18	31.31	.00
6188.35	88.97	2.82	5933.59	234.15	86.61	245.63	249.66	20.30	.00
6288.35	88.97	2.82	5935.38	334.01	91.53	344.83	346.33	15.32	.00
6388.35	88.97	2.82	5937.18	433.88	96.45	444.03	444.47	12.53	.00
6488.35	88.97	2.82	5938.97	533.74	101.37	543.23	543.28	10.75	.00
TD @ 6546' MD, 5940' TVD, 89° INC, 600' VS									
6545.58	88.97	2.82	5940.00	590.88	104.19	600.00	600.00	10.00	.00

Company: TEXACO E&P
Lease/Well: VGWU #94
Location: LEA COUNTY
Rig Name: YALE E. KEY #119
State/Country: NEW MEXICO
Declination: 9.11368

Grid:
File name: D:\DATA\TEXACO~1\VGWU\VGWU_94\VGWU94.SVY
Date/Time: 18-Mar-98 / 16:24



° -- NORTHEAST (LOWER) LATERAL (REV.1) - 3/18/98
 ^ -- GYRODATA GYRO SURVEYS
VERTICAL SECTION (Ft) @ 10.00°



Job Number:
 Company: TEXACO E&P
 Lease/Well: VGWU #94
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 RKB:
 G.L. or M.S.L.:

State/Country: NEW MEXICO
 Declination: 9.11368
 Grid:
 File name: D:\DATA\TEXACO-1\VGWU\VGWU_94\VGWU94.SVY
 Date/Time: 18-Mar-98 / 16:27
 Curve Name: SOUTHEAST (UPPER) LATERAL (REV.1)

PHOENIX DRILLING SERVICES, INC.

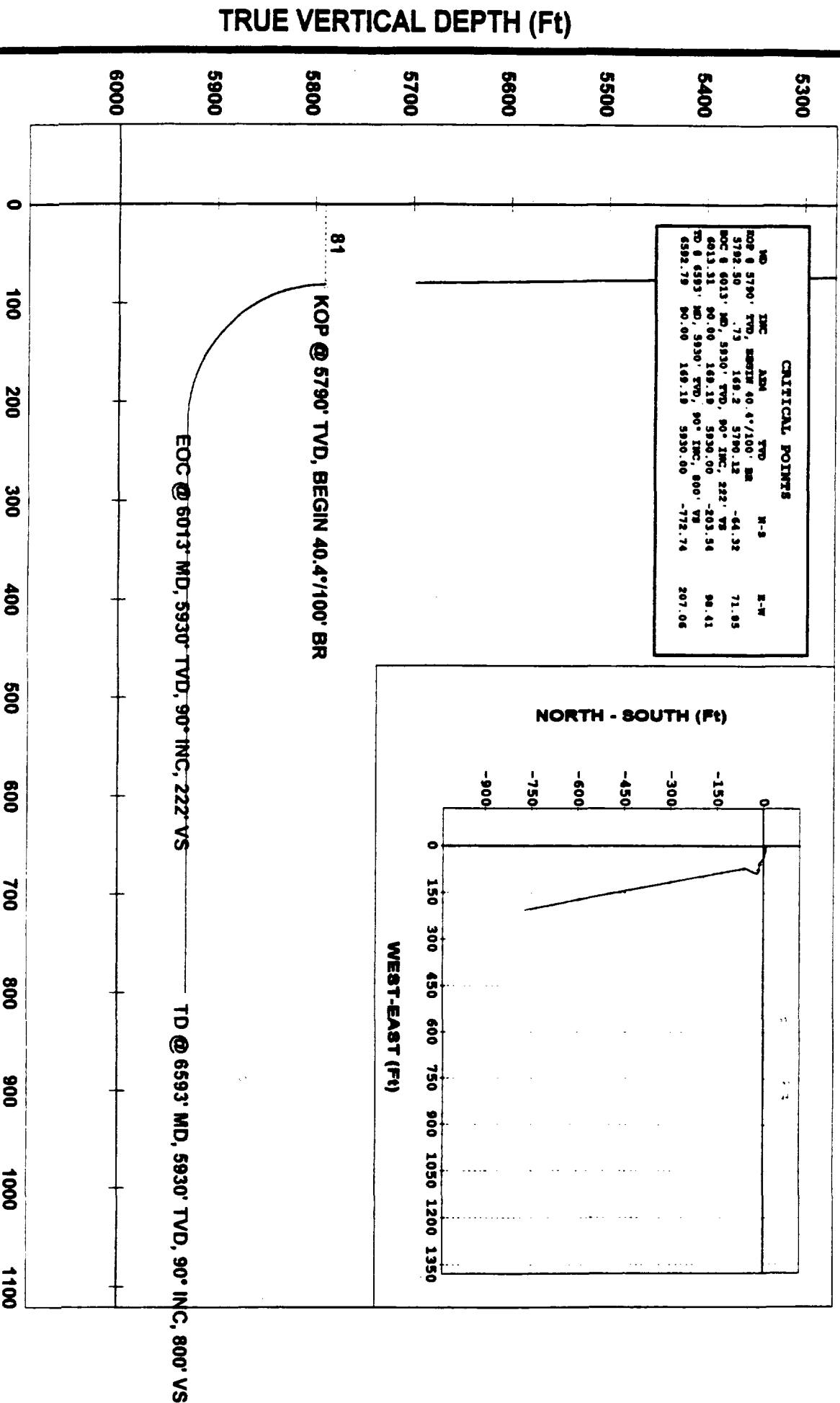
WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 165.00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
KOP @ 5790' TVD, BEGIN 40.4'/100' BR									
5792.50	.73	169.20	5790.12	-64.32	71.85	80.72	96.43	131.83	.00
5802.50	4.77	169.20	5800.11	-64.79	71.94	81.20	96.82	132.01	40.44
5812.50	8.82	169.20	5810.03	-65.95	72.16	82.38	97.76	132.43	40.44
5822.50	12.86	169.20	5819.85	-67.80	72.51	84.26	99.27	133.08	40.44
5832.50	16.91	169.20	5829.52	-70.32	73.00	86.82	101.36	133.93	40.44
5842.50	20.95	169.20	5838.97	-73.51	73.60	90.05	104.02	134.96	40.44
5852.50	24.99	169.20	5848.18	-77.34	74.33	93.95	107.27	136.14	40.44
5862.50	29.04	169.20	5857.09	-81.80	75.18	98.47	111.11	137.41	40.44
5872.50	33.08	169.20	5865.65	-86.87	76.15	103.62	115.52	138.76	40.44
5882.50	37.13	169.20	5873.83	-92.52	77.23	109.35	120.51	140.15	40.44

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
5892.50	41.17	169.20	5881.58	-98.72	78.41	115.65	126.07	141.54	40.44
5902.50	45.21	169.20	5888.87	-105.44	79.69	122.47	132.17	142.92	40.44
5912.50	49.26	169.20	5895.66	-112.65	81.07	129.79	138.79	144.26	40.44
5922.50	53.30	169.20	5901.91	-120.31	82.53	137.57	145.90	145.55	40.44
5932.50	57.34	169.20	5907.60	-128.39	84.07	145.77	153.46	146.78	40.44
5942.50	61.39	169.20	5912.70	-136.84	85.68	154.35	161.45	147.95	40.44
5952.50	65.43	169.20	5917.17	-145.62	87.36	163.27	169.81	149.04	40.44
5962.50	69.48	169.20	5921.01	-154.69	89.09	172.48	178.51	150.06	40.44
5972.50	73.52	169.20	5924.18	-164.00	90.87	181.93	187.49	151.01	40.44
5982.50	77.56	169.20	5926.67	-173.51	92.68	191.59	196.71	151.89	40.44
5992.50	81.61	169.20	5928.48	-183.17	94.52	201.39	206.12	152.70	40.44
6002.50	85.65	169.20	5929.59	-192.93	96.38	211.30	215.67	153.45	40.44
6012.50	89.70	169.20	5930.00	-202.74	98.26	221.27	225.30	154.14	40.44
EOC @ 6013' MD, 5930' TVD, 90° INC, 222' VS									
6013.31	90.00	169.19	5930.00	-203.54	98.41	222.07	226.08	154.20	37.73
6113.31	90.00	169.19	5930.00	-301.76	117.16	321.80	323.71	158.78	.00
6213.31	90.00	169.19	5930.00	-399.99	135.91	421.54	422.45	161.23	.00
6313.31	90.00	169.19	5930.00	-498.22	154.65	521.27	521.67	162.75	.00
6413.31	90.00	169.19	5930.00	-596.44	173.40	621.00	621.14	163.79	.00
6513.31	90.00	169.19	5930.00	-694.67	192.15	720.73	720.76	164.54	.00
TD @ 6593' MD, 5930' TVD, 90° INC, 800' VS									
6592.79	90.00	169.19	5930.00	-772.74	207.06	800.00	800.00	165.00	.00

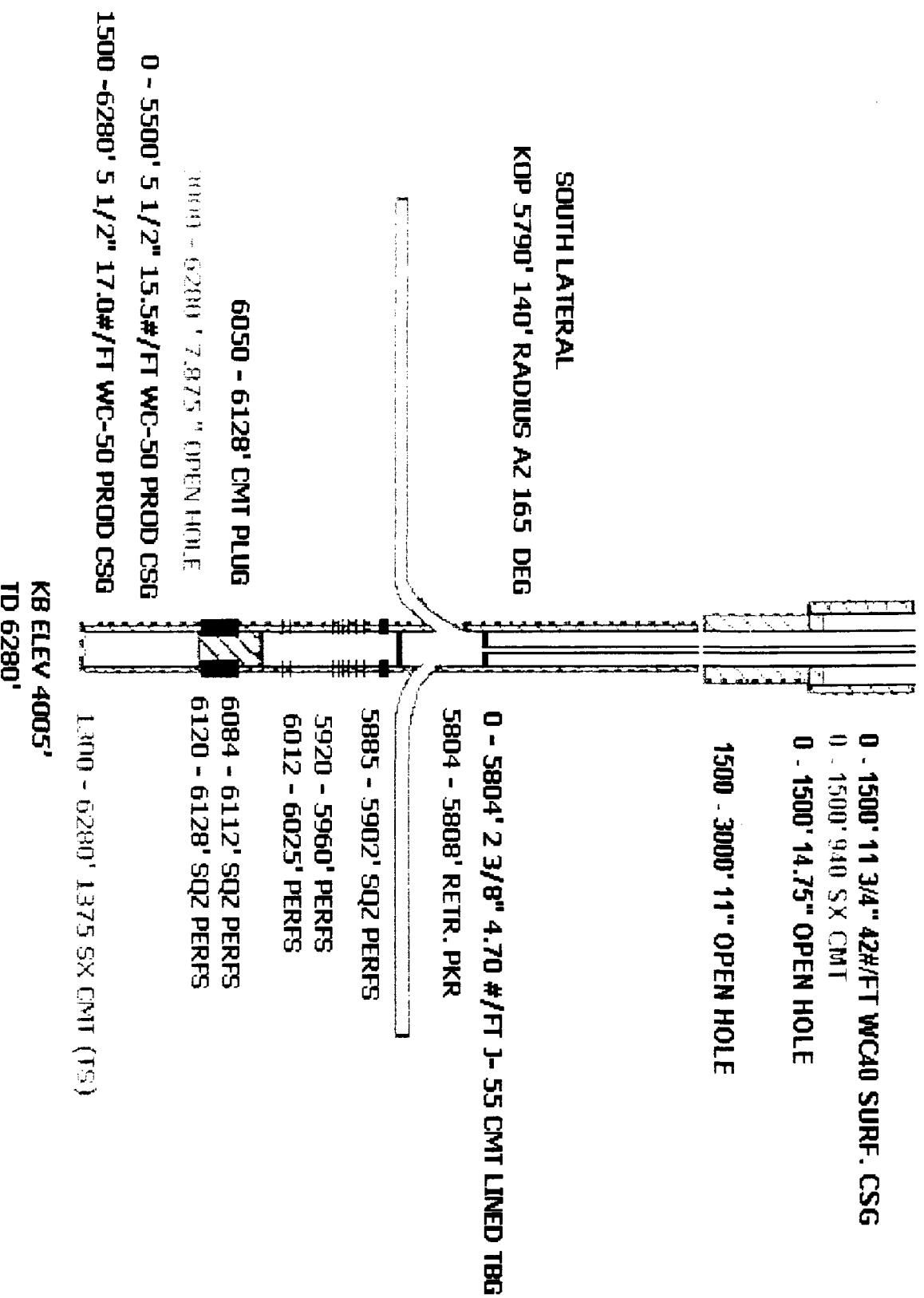
Company: TEXACO E&P
 Lease/Well: VGWU #94
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 State/Country: NEW MEXICO
 Declination: 9.11368

Grid:
 File name: D:\DATA\TEXACO~1\VGWU\VGWU_94\VGWU94.SVY
 Date/Time: 18-Mar-98 / 15:27



-- SOUTHEAST (UPPER) LATERAL (REV.1) -- GYRODATA GYRO SURVEYS
VERTICAL SECTION (Ft) @ 165.00°

TEXACO EXPL. & PROD.
VGWJ NO. 94
API# 3002531841





Job Number:
 Company: TEXACO E&P
 Lease/Well: VGWU #93
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 RKB:
 G.L. or M.S.L.:

State/Country: NEW MEXICO
 Declination: 9.11649
 Grid:
 File name: D:\DATA\TEXACO-11VGWU\VGWU_931VGWU93.SVY
 Date/Time: 23-Mar-88 / 13:39
 Curve Name: NORTHEAST (LOWER) LATERAL (REV.0)

PHOENIX DRILLING SERVICES, INC.

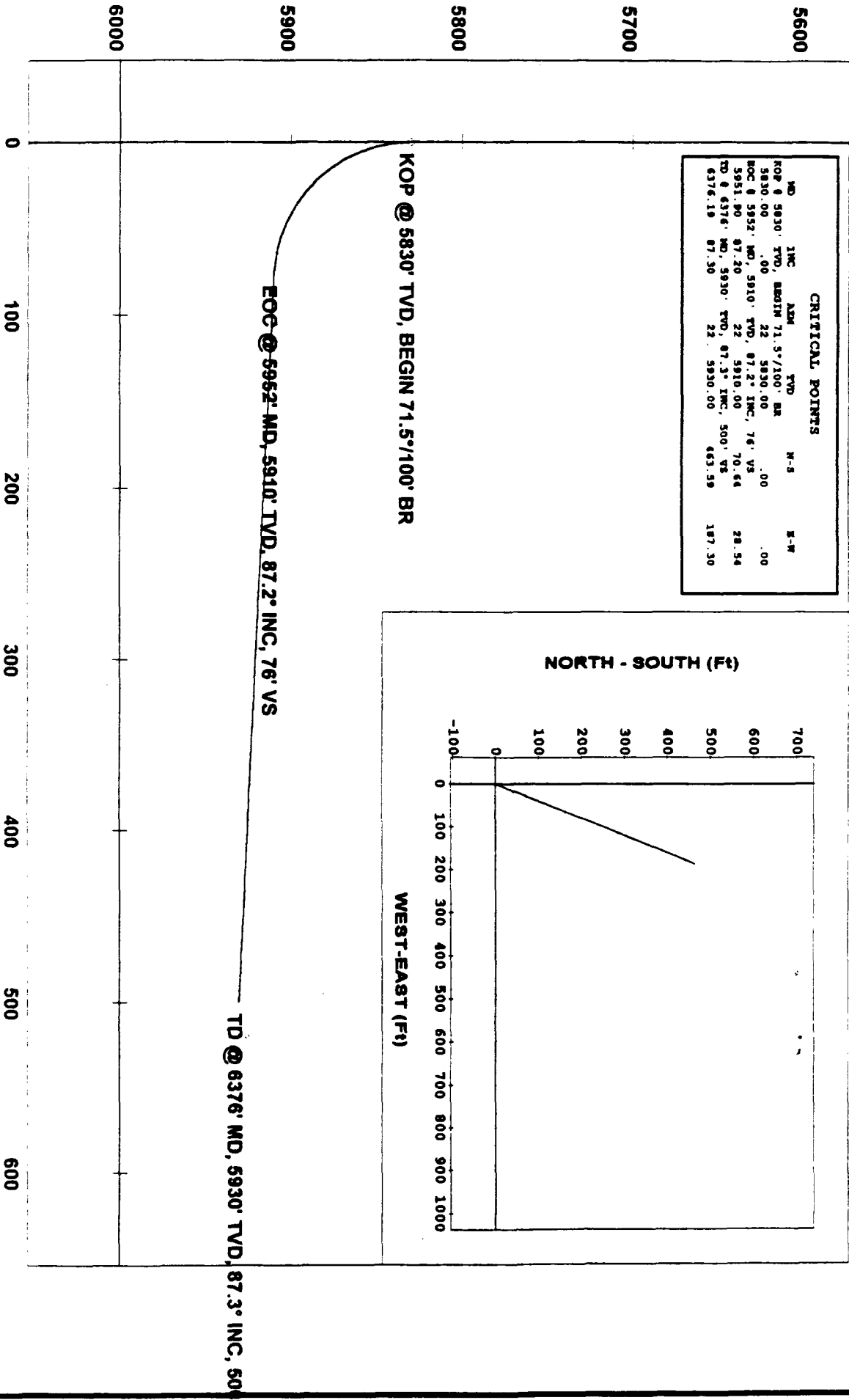
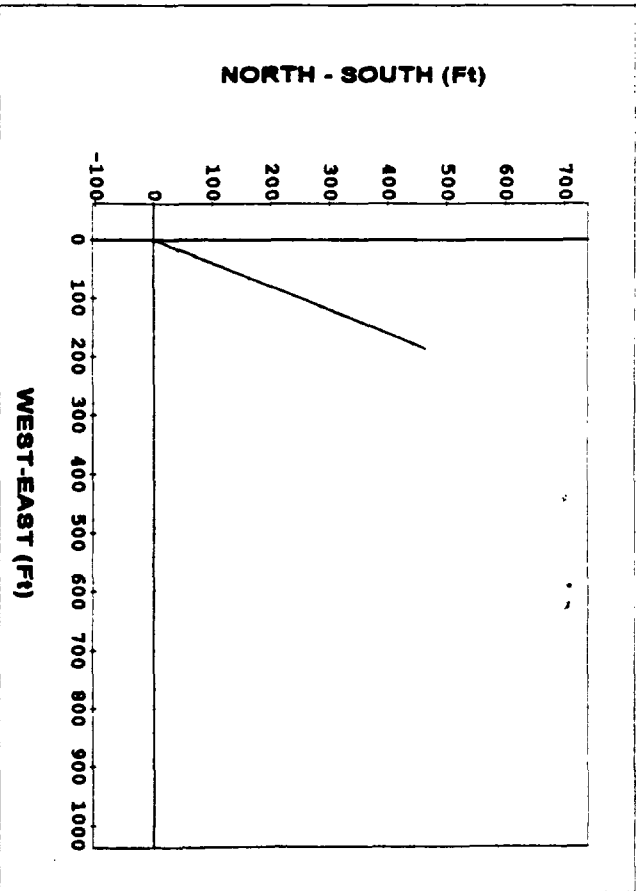
WINSERVE SURVEY CALCULATIONS Minimum Curvature Method Vertical Section Plane 22.00 Vertical Section Referenced to Wellhead Rectangular Coordinates Referenced to Wellhead

Measured Depth Ft	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
KOP @ 5830' TVD, BEGIN 71.5°/100' BR									
5830.00	.00	22.00	5830.00	.00	.00	.00	.00	.00	.00
5840.00	7.15	22.00	5839.97	.58	.23	.62	.62	22.00	71.53
5850.00	14.31	22.00	5849.79	2.30	.93	2.48	2.48	22.00	71.53
5860.00	21.46	22.00	5859.30	5.15	2.08	5.55	5.55	22.00	71.53
5870.00	28.61	22.00	5868.36	9.07	3.66	9.78	9.78	22.00	71.53
5880.00	35.77	22.00	5876.82	14.01	5.66	15.11	15.11	22.00	71.53
5890.00	42.92	22.00	5884.54	19.88	8.03	21.44	21.44	22.00	71.53
5900.00	50.07	22.00	5891.42	26.60	10.75	28.69	28.69	22.00	71.53
5910.00	57.23	22.00	5897.35	34.06	13.76	36.74	36.74	22.00	71.53
5920.00	64.38	22.00	5902.22	42.15	17.03	45.46	45.46	22.00	71.53

Company: TEXACO E&P
 Lease/Well: VGWU #93
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 State/Country: NEW MEXICO
 Declination: 9.11549

Grid:
 File name: D:\DATA\TEXACO~1\VGWU\VGWU_93\VGWU93.SVY
 Date/Time: 23-Mar-98 / 13.40

CRITICAL POINTS				
MD	INC	AZM	TVD	N-S
KOP @ 5830'	TVD, BEGIN 71.5°/100'	BR		
5830.00	.00	22	5830.00	.00
BOC @ 5952'	MD, 5910'	TVD, 87.2° INC, 76' VS		
5951.80	87.20	22	5910.00	70.64
TD @ 6376'	MD, 5930'	TVD, 87.3° INC, 500' VS		
6376.19	87.30	22	5930.00	463.59
				187.30



-- NORTHEAST (LOWER) LATERAL (REV.0)

VERTICAL SECTION (Ft) @ 22.00°



Job Number:
 Company: TEXACO E&P
 Lease/Well: VGWU #93
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 RKB:
 G.L. or M.S.L.:

State/Country: NEW MEXICO
 Declination: 9.11549
 Grid:
 File name: D:\DATA\TEXACO-1\VGWUVGWU_93\VGWU93.SVY
 Date/Time: 23-Mar-98 / 13:40
 Curve Name: SOUTHWEST (UPPER) LATERAL (REV.0)

PHOENIX DRILLING SERVICES, INC.

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 262.00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
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KOP @ 5790' TVD, BEGIN 47.74°/100' BR

5790.00	00	262.00	5790.00	00	00	00	00	00	00
5800.00	4.77	262.00	5799.99	-06	-41	42	42	262.00	47.74
5810.00	9.55	262.00	5809.91	-23	-1.65	1.66	1.66	262.00	47.74
5820.00	14.32	262.00	5819.69	-52	-3.69	3.73	3.73	262.00	47.74
5830.00	19.10	262.00	5829.26	-92	-6.54	6.60	6.60	262.00	47.74
5840.00	23.87	262.00	5838.57	-143	-10.17	10.27	10.27	262.00	47.74
5850.00	28.64	262.00	5847.53	-204	-14.55	14.69	14.69	262.00	47.74
5860.00	33.42	262.00	5856.10	-276	-19.65	19.84	19.84	262.00	47.74
5870.00	38.19	262.00	5864.21	-358	-25.44	25.69	25.69	262.00	47.74
5880.00	42.97	262.00	5871.80	-448	-31.88	32.19	32.19	262.00	47.74

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
5890.00	47.74	262.00	5878.82	-5.47	-38.92	39.31	39.31	262.00	47.74
5900.00	52.51	262.00	5885.23	-6.54	-46.52	46.98	46.98	262.00	47.74
5910.00	57.29	262.00	5890.98	-7.68	-54.62	55.16	55.16	262.00	47.74
5920.00	62.06	262.00	5896.03	-8.88	-63.17	63.79	63.79	262.00	47.74
5930.00	66.84	262.00	5900.34	-10.13	-72.10	72.81	72.81	262.00	47.74
5940.00	71.61	262.00	5903.89	-11.43	-81.35	82.15	82.15	262.00	47.74
5950.00	76.38	262.00	5906.64	-12.77	-90.87	91.76	91.76	262.00	47.74
5960.00	81.16	262.00	5908.59	-14.14	-100.58	101.57	101.57	262.00	47.74
5970.00	85.93	262.00	5909.72	-15.52	-110.42	111.50	111.50	262.00	47.74

EOC @ 5976' MD, 5910' TVD, 89° INC, 118' VS

5976.43	88.99	262.00	5910.00	-16.41	-116.78	117.92	117.92	262.00	47.53
5976.75	89.03	262.00	5910.01	-16.46	-117.10	118.25	118.25	262.00	12.00
6076.75	89.03	262.00	5911.71	-30.37	-216.11	218.23	218.23	262.00	.00
6176.75	89.03	262.00	5913.41	-44.29	-315.12	318.22	318.22	262.00	.00
6276.75	89.03	262.00	5915.11	-58.20	-414.13	418.20	418.20	262.00	.00

6376.75	89.03	262.00	5916.81	-72.12	-513.15	518.19	518.19	262.00	.00
6476.75	89.03	262.00	5918.51	-86.03	-612.16	618.18	618.18	262.00	.00
6576.75	89.03	262.00	5920.21	-99.95	-711.17	718.16	718.16	262.00	.00
6676.75	89.03	262.00	5921.91	-113.86	-810.18	818.15	818.15	262.00	.00
6776.75	89.03	262.00	5923.61	-127.78	-909.20	918.13	918.13	262.00	.00

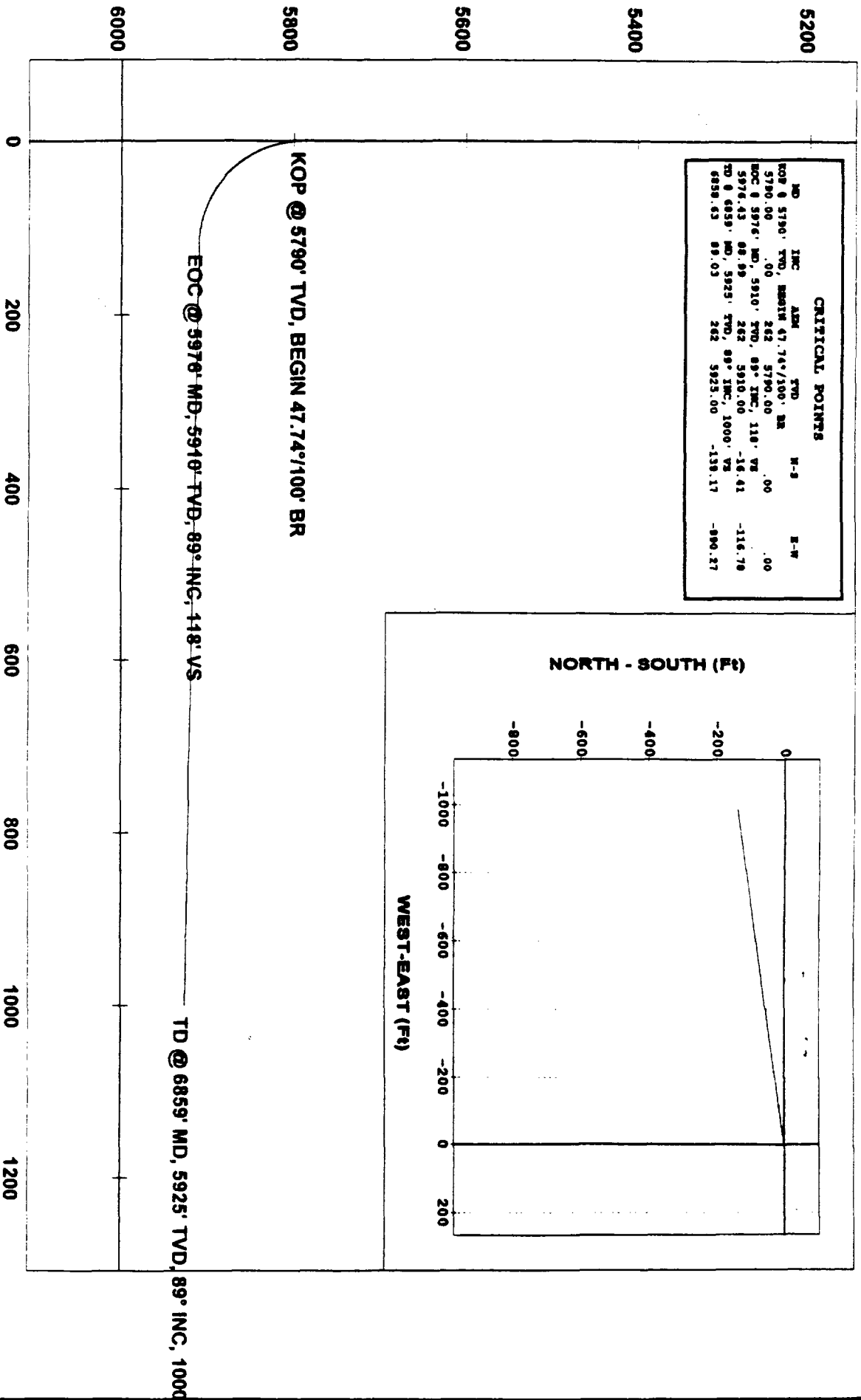
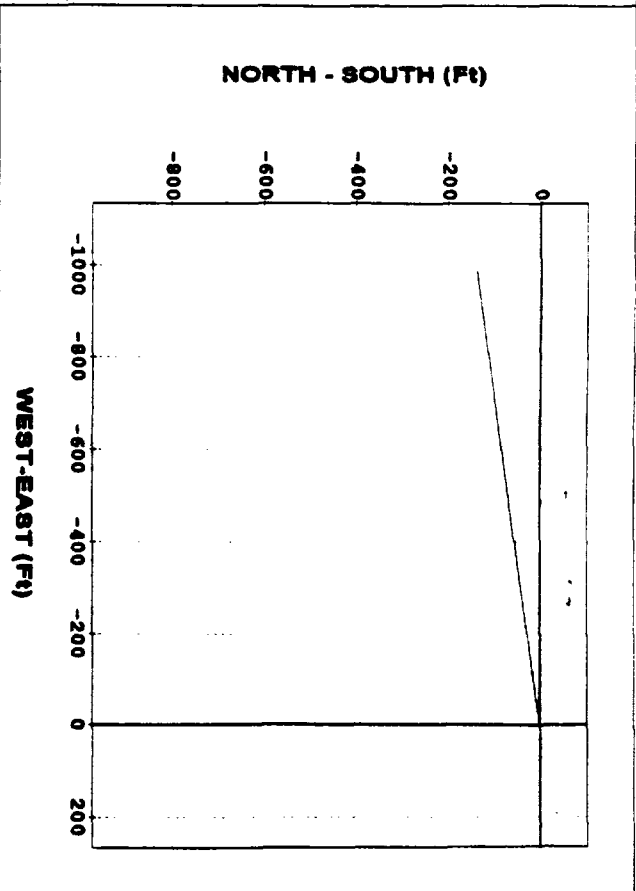
TD @ 6859' MD, 5925' TVD, 89° INC, 1000' VS

6858.63	89.03	262.00	5925.00	-139.17	-990.27	1000.00	1000.00	262.00	.00
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Company: TEXACO E&P
 Lease/Well: VGWU #93
 Location: LEA COUNTY
 Rig Name: YALE E. KEY #119
 State/Country: NEW MEXICO
 Declination: 9.11549

Grid:
 File name: D:\DATA\TEXACO~1\VGWU\VGWU_93\VGWU93.SVY
 Date/Time: 23-Mar-98 / 13:40

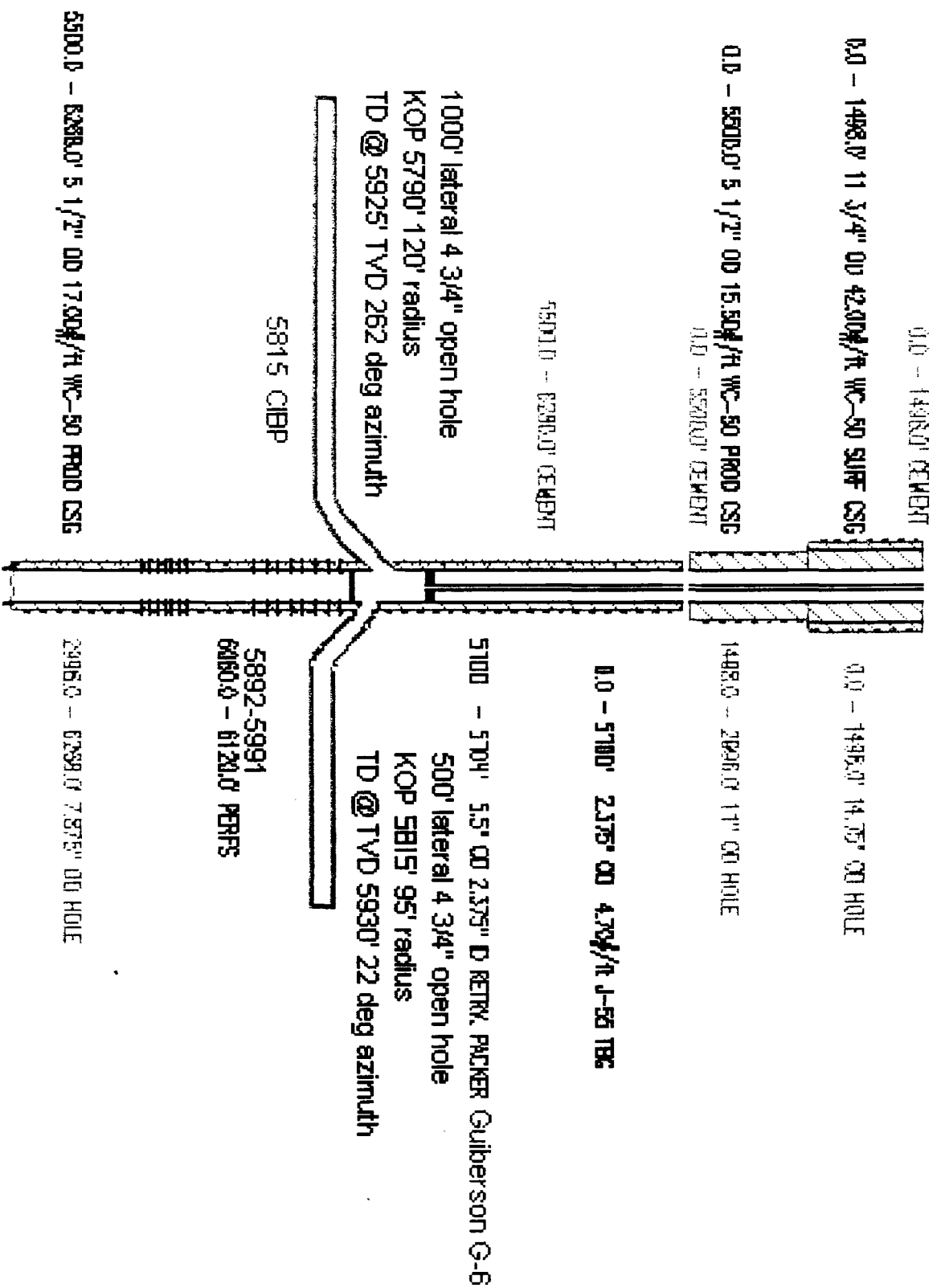
CRITICAL POINTS					
MD	INC	ASD	TVD	N-S	E-W
KOP @ 5790' TVD, BEGIN 47.74°/100' BR					
5790.00	.00	262	5790.00	.00	.00
EOC @ 5976' MD, 5910' TVD, 89° INC, 118° VS					
5976.43	89.09	262	5910.00	-16.41	-116.78
TD @ 6859' MD, 5925' TVD, 89° INC, 1000' VS					
6859.63	89.03	262	5925.00	-139.17	-990.27



-- SOUTHWEST (UPPER) LATERAL (REV.0)
 VERTICAL SECTION (Ft) @ 262.00°

PROPOSED WELLBORE

LEXARU EXPL & PROD
 VCMU NO. W-93
 API# 3002531810



KB ELET 401Z
 TR 626B

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 12123 Exhibit No. 21

Submitted by: Texaco Exploration and Production Inc.

Hearing Date: February 4, 1999