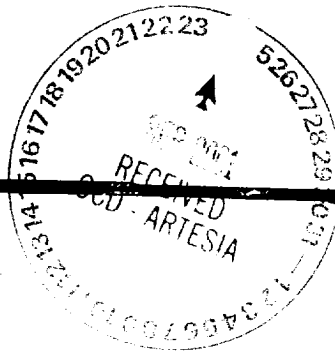
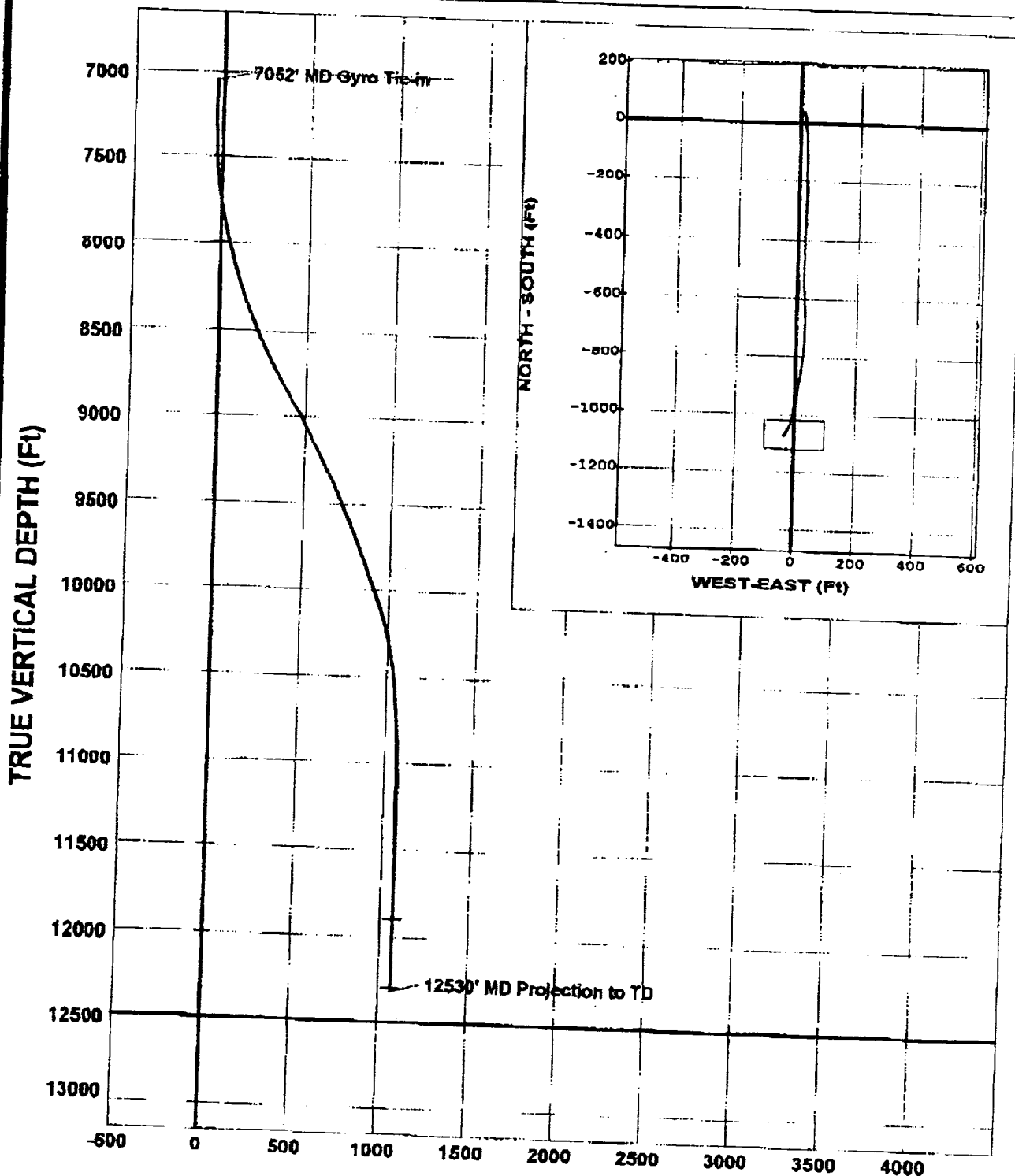




Company: Concho Resources, Inc.
 Lease/Well: West Shugart 31 Fed. Com #1
 Location: Eddy County
 State/Country: New Mexico

Valley



° - West Shugart "31" Fed. Com. #1

VERTICAL SECTION (Ft) @ 180.00°

Job Number:	State/Country: New Mexico
Company: Concho Resources, Inc.	Declination: 8.86° East
Lease/Well: West Shugart 31 Fed. Com #1	Grid: True North
Location: Eddy County	File name: C:\WINSERVE\CONCHO\SHUGART.SVY
Rig Name: Patterson #144	Date/Time: 12-Jun-01 / 13:41
RKB:	Curve Name: West Shugart "31" Fed. Com. #1
G.L. or M.S.L.:	

Weatherford Daily

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 180.00
 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
GYRO TIE IN									
7052.00	1.59	31.18	7051.10	31.10	5.28	-31.10	31.55	9.84	.00
7280.00	1.50	78.00	7279.03	34.43	9.84	-34.43	36.80	15.95	.54
7379.00	1.60	131.10	7377.99	33.79	12.15	-33.79	35.90	19.77	1.40
7478.00	2.90	160.10	7474.92	30.59	14.00	-30.59	33.64	24.59	1.74
7572.00	5.50	172.00	7570.66	23.75	15.47	-23.75	28.34	33.08	2.84
7669.00	7.50	172.00	7667.03	12.88	17.00	-12.88	21.32	52.85	2.06
7765.00	9.50	173.00	7761.97	-1.19	18.83	1.19	18.87	93.62	2.09
7860.00	11.50	171.00	7855.37	-18.33	21.27	18.33	28.08	130.75	2.14
7956.00	13.20	176.50	7949.15	-38.72	23.44	38.72	45.26	148.82	2.15
8052.00	14.50	178.60	8042.36	-61.68	24.40	61.68	66.33	158.42	1.45
8149.00	16.40	178.20	8135.85	-87.51	25.13	87.51	91.05	163.98	1.96
8245.00	18.40	178.40	8227.45	-116.20	25.98	116.20	119.07	167.40	2.08
8342.00	20.00	181.10	8319.06	-148.09	26.09	148.09	150.37	170.01	1.89
8438.00	21.80	178.30	8408.74	-182.33	26.30	182.33	184.22	171.79	2.14
8536.00	23.50	178.30	8499.18	-220.05	27.42	220.05	221.75	172.90	1.73
8631.00	23.90	180.70	8586.17	-258.23	27.75	258.23	259.71	173.87	1.10
8728.00	25.70	181.90	8674.22	-298.90	28.81	298.90	300.10	174.87	1.93
8792.00	27.70	182.70	8731.39	-327.63	25.65	327.63	328.63	175.52	3.18
8888.00	30.00	181.60	8815.47	-373.92	23.93	373.92	374.68	176.34	2.46

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
				FT	FT	FT	Distance FT	Direction Deg	
8953.00	29.70	181.10	8871.85	-406.26	23.16	406.26	406.92	176.74	.60
9017.00	28.50	179.90	8927.77	-437.38	22.89	437.38	437.98	177.00	2.08
9081.00	27.50	179.90	8984.28	-467.43	22.94	467.43	467.99	177.19	1.58
9145.00	27.40	179.80	9041.07	-496.93	23.01	496.93	497.46	177.35	.17
9210.00	27.10	179.50	9098.86	-526.69	23.20	526.69	527.20	177.48	.51
9274.00	27.40	179.20	9155.75	-555.99	23.53	555.99	556.49	177.58	.52
9338.00	27.20	177.80	9212.63	-585.33	24.30	585.33	585.84	177.62	1.05
9402.00	26.90	176.80	9269.62	-614.41	25.67	614.41	614.94	177.61	.85
9466.00	25.60	176.20	9327.02	-642.66	27.39	642.66	643.24	177.56	2.07
9531.00	25.10	176.30	9385.77	-670.45	26.73	670.45	671.07	177.66	1.58
9595.00	24.70	176.90	9443.82	-697.39	29.39	697.39	698.01	177.59	.74
9691.00	23.10	182.20	9531.59	-736.27	29.05	736.27	736.84	177.74	2.17
9756.00	22.40	182.20	9591.53	-761.38	28.09	761.38	761.90	177.89	1.08
9820.00	21.70	185.20	9650.85	-785.35	26.55	785.35	785.80	178.06	2.07
9884.00	21.30	186.60	9710.40	-808.68	24.14	808.68	809.04	178.29	1.02
9990.00	21.00	188.00	9809.26	-848.62	19.28	846.62	848.84	178.70	.55
10087.00	21.00	188.00	9899.81	-881.04	14.44	881.04	881.16	179.06	.00
10194.00	20.60	186.90	9999.84	-918.71	9.51	918.71	918.76	179.41	.52
10258.00	19.30	187.00	10060.00	-940.39	6.87	940.39	940.41	179.58	2.03
10355.00	16.60	190.10	10152.27	-969.95	2.49	969.95	969.95	179.85	2.95
10483.00	13.50	194.30	10275.87	-1002.43	-4.41	1002.43	1002.44	180.25	2.57
10644.00	9.50	198.40	10433.61	-1033.26	-13.25	1033.26	1033.35	180.73	2.53
10709.00	7.90	200.00	10497.86	-1042.55	-16.47	1042.55	1042.68	180.91	2.49
10805.00	6.00	208.80	10593.15	-1053.15	-21.15	1053.15	1053.36	181.15	2.26
10869.00	4.60	205.10	10658.87	-1058.41	-23.85	1058.41	1058.67	181.29	2.25
10966.00	3.40	205.70	10753.64	-1064.52	-26.74	1064.52	1064.86	181.44	1.24
11030.00	2.90	200.10	10817.54	-1067.75	-28.12	1067.75	1068.12	181.51	.92
11094.00	2.40	203.50	10881.47	-1070.50	-29.21	1070.50	1070.90	181.56	.82
11158.00	2.40	206.50	10945.42	-1072.93	-30.35	1072.93	1073.36	181.62	.20
11222.00	2.10	212.60	11009.37	-1075.11	-31.58	1075.11	1075.58	181.68	.61
11287.00	1.20	225.20	11074.34	-1078.59	-32.71	1078.59	1077.09	181.74	1.48
11350.00	1.10	239.30	11137.33	-1077.37	-33.89	1077.37	1077.89	181.79	.47
11414.00	.40	359.10	11201.32	-1077.46	-34.23	1077.46	1078.00	181.82	2.10
11511.00	.10	74.00	11298.32	-1077.10	-34.15	1077.10	1077.64	181.82	.40
11600.00	.50	80.00	11387.32	-1077.01	-33.69	1077.01	1077.53	181.79	.45
11696.00	.25	225.00	11483.32	-1077.08	-33.43	1077.08	1077.60	181.78	.75
11825.00	.50	265.00	11612.32	-1077.33	-34.19	1077.33	1077.87	181.82	.27
11954.00	.50	290.00	11741.31	-1077.19	-35.28	1077.19	1077.76	181.88	.17
12090.00	.00	.00	11877.31	-1076.98	-35.84	1076.98	1077.58	181.91	.37
12280.00	.25	.00	12067.31	-1076.57	-35.84	1076.57	1077.17	181.91	.13

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
12442.00	.50	30.00	12229.31	-1075.60	-35.48	1075.60	1076.19	181.89	.19
Projection to Bit									
12530.00	.50	30.00	12317.30	-1074.94	-35.10	1074.94	1075.51	181.87	.00

A Gyrodata Directional Survey

for

CONCHO RESOURCES INC.

Location: PATTERSON DRLG RIG #144, EDDY COUNTY, NEW MEXICO
Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE

Job Number: MD0501GMW203

Run Date: 5/8/01 9:20:26 PM

Surveyor: James Taylor John Zugg

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.707176 deg. N

Azimuth Correction:

Gyro: Bearings are Relative to True North

Proposed Well Direction: 180.000 deg

Vertical Section Calculated from Well Head Location

A Gyrodatta Directional Survey

CONCHO RESOURCES INC.

Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE

Location: PATTERSON DRILLING RIG #144, EDDY COUNTY, NEW MEXICO

Job Number: MD0501GMW203

MEASURED IN CL		AZIMUTH		VERTICAL		DOGLEG		VERTICAL		CLOSURE		HORIZONTAL	
DEPTH				SECTION		SEVERITY		DEPTH		DIST.		COORDINATES	
feet	deg.	deg.	feet		deg./		feet		feet	deg.		feet	
					100 ft.								

0.0 0.00 0.00 0.0 0.00 0.0 0.0 0.0 0.00N 0.
 RATE GYROSCOPIC MULTISHOT RUN INSIDE 4 1/2" DRILLPIPE. ALL MEASURED DEPTHS AND COORDINATES
 REFERENCED TO PATTERSON DRILLING RIG #144 R.K.B.

100.0	0.59	106.56	0.1	0.59	100.0	0.5	106.6	0.15 S	0.49 E
200.0	0.68	104.80	0.4	0.09	200.0	1.6	105.9	0.45 S	1.56 E
300.0	0.61	108.89	0.8	0.08	300.0	2.8	106.3	0.77 S	2.64 E
400.0	0.44	94.75	1.0	0.21	400.0	3.7	105.4	0.98 S	3.54 E
500.0	0.46	85.87	1.0	0.07	500.0	4.4	102.8	0.98 S	4.32 E
600.0	0.47	87.18	0.9	0.02	600.0	5.2	100.3	0.93 S	5.14 E
700.0	0.59	87.60	0.9	0.12	700.0	6.1	98.3	0.89 S	6.07 E
800.0	0.69	91.75	0.9	0.11	800.0	7.2	97.0	0.89 S	7.19 E
900.0	0.67	80.51	0.8	0.13	900.0	8.4	95.5	0.81 S	8.37 E
1000.0	0.65	74.92	0.6	0.07	1000.0	9.5	93.4	0.56 S	9.50 E
1100.0	0.65	79.74	0.3	0.05	1099.9	10.6	91.7	0.31 S	10.60 E
1200.0	0.68	80.47	0.1	0.03	1199.9	11.7	90.6	0.12 S	11.75 E
1300.0	0.63	85.71	-0.0	0.08	1299.9	12.9	89.9	0.02 N	12.88 E
1400.0	0.64	82.58	-0.1	0.04	1399.9	14.0	89.4	0.14 N	13.99 E

A Gyrodata Directional Survey

CONCHO RESOURCES INC.

Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE

Location: PATTERSON DRLG RIG #144, EDDY COUNTY, NEW MEXICO
Job Number: MD0501GMW203

MEASURED IN CL DEPTH feet	IN CL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE		HORIZONTAL COORDINATES feet
						DIST. feet	AZIMUTH deg.	
1500.0	0.69	77.63	-0.3	0.07	1499.9	15.1	88.7	0.34N 15.13 E
1600.0	0.73	76.04	-0.6	0.04	1599.9	16.3	87.8	0.62N 16.33 E
1700.0	0.79	74.30	-1.0	0.07	1699.9	17.6	86.9	0.96N 17.61 E
1800.0	0.82	71.25	-1.4	0.05	1799.9	19.0	85.8	1.38N 18.96 E
1900.0	0.88	72.56	-1.8	0.07	1899.9	20.4	84.8	1.84N 20.36 E
2000.0	0.80	63.98	-2.4	0.15	1999.9	21.9	83.8	2.37N 21.73 E
2100.0	0.87	68.09	-3.0	0.09	2099.9	23.2	82.7	2.96N 23.06 E
2200.0	0.83	56.61	-3.6	0.17	2199.8	24.6	81.5	3.65N 24.37 E
2300.0	0.93	55.91	-4.5	0.10	2299.8	26.0	80.0	4.50N 25.64 E
2400.0	0.98	40.15	-5.6	0.27	2399.8	27.4	78.2	5.61N 26.87 E
2500.0	1.35	23.01	-7.3	0.50	2499.8	28.8	75.2	7.34N 27.88 E
2600.0	1.50	14.40	-9.7	0.26	2599.8	30.3	71.3	9.69N 28.66 E
2700.0	1.65	4.58	-12.4	0.31	2699.7	31.6	66.9	12.39N 29.10 E
2800.0	1.65	0.57	-15.3	0.12	2799.7	33.0	62.4	15.25N 29.23 E
2900.0	1.57	355.22	-18.1	0.17	2899.7	34.3	58.2	18.06N 29.13 E
3000.0	1.60	0.75	-20.8	0.16	2999.6	35.7	54.4	20.82N 29.03 E
3100.0	1.58	355.94	-23.6	0.13	3099.6	37.3	50.8	23.59N 28.95 E
3200.0	1.42	359.52	-26.2	0.18	3199.5	39.0	47.7	26.20N 28.85 E

CONCHO RESOURCES INC.
Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE
Location: PATTERSON DRLG RIG #144, EDDY COUNTY, NEW MEXICO
Job Number: MDD0501 GMAW203

Sep 11 01 08:38a
 WENTHOLD AND SONS
 FAX:405/751200
 Sep 11 2001 9:11 P.09
 P.9

A Gyrodata Directional Survey

CONCHO RESOURCES INC.

Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE

Location: PATTERSON DRILL RIG #144, EDDY COUNTY, NEW MEXICO

Job Number: MD0501GMW203

MEASURED INCL DEPTH feet	deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet
5100.0	1.07	263.99	-44.0	0.34	5099.3	50.1	28.6	43.98N 23.98E
5200.0	0.95	257.70	-43.7	0.16	5199.3	49.0	27.0	43.71N 22.24E
5300.0	0.87	255.66	-43.3	0.09	5299.3	48.0	25.5	43.34N 20.69E
5400.0	0.83	248.31	-42.9	0.12	5399.3	47.0	24.2	42.89N 19.28E
5500.0	0.79	252.25	-42.4	0.07	5499.3	46.1	22.9	42.41N 17.95E
5600.0	0.75	237.15	-41.8	0.20	5599.3	45.1	21.8	41.84N 16.75E
5700.0	0.72	223.00	-41.0	0.18	5699.3	43.9	21.0	41.02N 15.77E
5800.0	0.85	217.90	-40.0	0.15	5799.3	42.7	20.4	39.97N 14.88E
5900.0	1.04	215.08	-38.6	0.19	5899.2	41.1	19.8	38.65N 13.90E
6000.0	1.26	228.34	-37.2	0.34	5999.2	39.2	18.7	37.18N 12.56E
6100.0	1.24	225.74	-35.7	0.06	6099.2	37.3	17.1	35.70N 10.97E
6200.0	1.08	230.42	-34.3	0.18	6199.2	35.6	15.4	34.34N 9.47E
6300.0	0.85	224.41	-33.2	0.25	6299.2	34.2	13.9	33.21N 8.22E
6400.0	0.79	205.30	-32.1	0.28	6399.2	32.9	13.0	32.06N 7.41E
6500.0	0.89	206.69	-30.7	0.10	6499.1	31.5	12.4	30.75N 6.77E
6600.0	0.53	205.07	-29.6	0.35	6599.1	30.3	11.9	29.63N 6.23E
6700.0	0.22	285.43	-29.3	0.54	6699.1	29.8	11.3	29.26N 5.84E
6800.0	0.32	323.46	-29.5	0.20	6799.1	30.0	10.5	29.54N 5.48E
6900.0	0.29	265.32	-29.8	0.30	6899.1	30.2	9.7	29.75N 5.06E

A Gyrodata Directional Survey

CONCHO RESOURCES INC.

Well: SHUGART 31 FED #1, 4 1/2" DRILLPIPE

Location: PATTERSON DRILL RIG #144, EDDY COUNTY, NEW MEXICO

Job Number: MD0501GMW203

MEASURED INCL	DEPTH	DEPT	DEG	DEG	VERTICAL SECTION	DOGLEG SEVERITY	VERTICAL DEPTH	CLOSURE DIST.	DEPT	DEG	HORIZONTAL COORDINATES
	feet				feet	deg./100 ft.	feet	feet			feet
7000.0	0.57	7.47			-30.2	0.69	6999.1	30.6	9.2		30.22N 4.87E
7052.0	1.59	31.18			-31.1	2.11	7051.1	31.5	9.6		31.10N 5.28E

Final Station Closure: Distance: 31.54 ft Az: 9.63 deg.