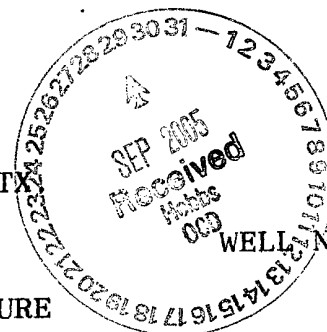


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*****
***** DEPTH MEASURED IN FEET *****
*****
***** THIS DIRECTIONAL SURVEY REPORT IS *****
***** CORRECT TO THE BEST OF MY KNOWLEDGE *****
***** AND IS SUPPORTED BY ACTUAL FIELD DATA! *****
*****
*****
***** COMPANY REPRESENTATIVE *****
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MULTI-SHOT
CORPUS CHRISTI, TX



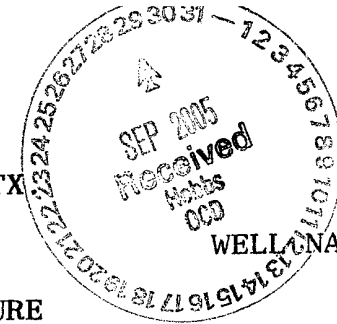
JOB NUMBER: 051117509435

WELL NAME: NVANU #123

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL	BEARING AZIMUTH	COORDINATES LATITUDE DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
0.0	0.00	0.00	0.000	00.00	000.00	0.00 N 0.00 E	0.00		0.00	AT 000.00
200.0	199.98	-0.64	-2.539	01.50	029.14	2.29 N 1.27 E	0.75	1.50	2.62	AT 029.14
400.0	399.92	-3.16	-6.609	01.39	352.43	6.98 N 2.23 E	0.46	0.92	7.33	AT 017.72
600.0	599.87	-6.51	-9.561	01.17	357.35	11.42 N 1.82 E	0.12	0.25	11.57	AT 009.03
800.0	799.84	-8.58	-12.201	00.78	016.88	14.76 N 2.12 E	0.25	0.51	14.92	AT 008.16
1000.0	999.83	-9.09	-12.659	00.44	215.94	15.45 N 2.06 E	0.60	1.20	15.58	AT 007.60
1200.0	1199.82	-10.09	-10.727	00.92	266.49	14.73 N 0.01 E	0.36	0.72	14.73	AT 000.03
1400.0	1399.81	-10.85	-9.451	00.20	150.98	14.32 N 1.43 W	0.51	1.02	14.39	AT 354.32
1600.0	1599.81	-10.81	-9.258	00.17	296.21	14.15 N 1.52 W	0.18	0.35	14.23	AT 353.86
1800.0	1799.81	-10.05	-8.133	00.84	178.35	12.81 N 1.75 W	0.47	0.93	12.93	AT 352.24
2000.0	1999.80	-9.42	-6.631	00.35	263.87	11.28 N 2.31 W	0.44	0.88	11.52	AT 348.42
2200.0	2199.79	-8.51	-5.230	00.92	168.98	9.64 N 2.61 W	0.51	1.01	9.99	AT 344.84
2400.0	2399.75	-5.76	-2.522	01.31	184.02	5.78 N 2.47 W	0.24	0.48	6.29	AT 336.92
2600.0	2599.71	-3.57	0.731	00.95	196.70	1.92 N 3.10 W	0.22	0.44	3.65	AT 301.70
2800.0	2799.68	-1.67	3.742	01.10	186.00	1.58 S 3.78 W	0.12	0.24	4.10	AT 247.29
3000.0	2999.66	0.02	6.177	00.60	193.36	4.51 S 4.22 W	0.26	0.51	6.18	AT 223.11
3200.0	3199.63	1.85	8.539	01.12	181.35	7.48 S 4.51 W	0.27	0.55	8.74	AT 211.08
3400.0	3399.62	3.15	10.448	00.26	224.01	9.76 S 4.87 W	0.47	0.95	10.91	AT 206.52
3600.0	3599.61	4.19	12.018	00.88	179.91	11.63 S 5.18 W	0.36	0.72	12.73	AT 204.03
3800.0	3799.59	6.18	13.903	00.69	172.94	14.36 S 5.03 W	0.11	0.21	15.21	AT 199.32
4000.0	3999.58	7.13	15.649	00.56	221.59	16.28 S 5.53 W	0.26	0.53	17.20	AT 198.77
4200.0	4199.57	7.86	16.024	00.53	092.69	17.06 S 5.26 W	0.49	0.98	17.85	AT 197.14
4400.0	4399.57	8.09	16.337	00.59	250.60	17.44 S 5.31 W	0.55	1.10	18.23	AT 196.92
4600.0	4599.57	8.23	17.230	00.35	131.23	18.19 S 5.82 W	0.41	0.82	19.09	AT 197.74
4800.0	4799.56	8.11	16.930	00.45	334.03	17.88 S 5.70 W	0.39	0.78	18.77	AT 197.69
5000.0	4999.55	6.25	17.569	00.83	273.99	17.08 S 7.49 W	0.36	0.72	18.65	AT 203.69
5200.0	5199.54	4.25	18.196	00.53	331.53	16.16 S 9.38 W	0.35	0.71	18.69	AT 210.12
5400.0	5399.54	3.57	18.168	00.19	185.48	15.68 S 9.85 W	0.35	0.70	18.52	AT 212.14
5600.0	5599.53	2.26	19.095	00.95	289.65	15.45 S 11.44 W	0.51	1.01	19.23	AT 216.52
5800.0	5799.50	-0.42	21.244	01.08	261.28	15.18 S 14.87 W	0.26	0.51	21.25	AT 224.40
6000.0	5999.46	-2.00	24.620	01.11	235.82	16.55 S 18.33 W	0.24	0.48	24.70	AT 227.92
6200.0	6199.45	-1.75	27.070	00.50	173.09	18.51 S 19.83 W	0.49	0.99	27.13	AT 226.98
6400.0	6399.44	-0.14	28.384	00.69	172.12	20.57 S 19.56 W	0.10	0.19	28.38	AT 223.56
6600.0	6599.43	1.73	29.345	00.55	145.59	22.55 S 18.85 W	0.16	0.32	29.40	AT 219.89
6800.0	6799.42	2.34	29.620	00.19	300.89	23.17 S 18.60 W	0.36	0.73	29.71	AT 218.74
7000.0	6999.42	1.22	30.745	00.76	260.66	23.22 S 20.19 W	0.31	0.63	30.77	AT 221.01
7100.0	7099.41	1.13	31.423	00.40	158.75	23.65 S 20.72 W	0.93	0.93	31.44	AT 221.21

MULTI-SHOT
CORPUS CHRISTI, TX



JOB NUMBER: 051117509435

WELL NAME: NVANU #123

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R PROP.	INCL	BEARING AZIMUTH	COORDINATES LATITUDE DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION
7200.0	7199.41	1.27	31.585	00.20	309.24	23.87 S 20.73 W	0.58	0.58	31.61	AT 220.97
7300.0	7299.41	0.94	32.456	01.00	233.37	24.28 S 21.56 W	0.97	0.97	32.47	AT 221.61
7400.0	7399.40	0.50	33.492	00.39	282.07	24.73 S 22.59 W	0.80	0.80	33.50	AT 222.42
7500.0	7499.40	0.52	33.947	00.48	175.10	25.07 S 22.89 W	0.70	0.70	33.95	AT 222.40
7600.0	7599.39	0.46	35.122	01.11	245.73	25.89 S 23.74 W	1.05	1.05	35.12	AT 222.52
7700.0	7699.38	0.43	36.616	00.79	193.62	26.96 S 24.78 W	0.88	0.88	36.62	AT 222.59
7800.0	7799.36	1.09	38.019	00.99	201.66	28.43 S 25.27 W	0.24	0.24	38.03	AT 221.63
7900.0	7899.36	1.40	39.083	00.30	226.02	29.41 S 25.77 W	0.73	0.73	39.11	AT 221.22
8000.0	7999.35	1.23	40.425	01.25	231.12	30.28 S 26.81 W	0.95	0.95	40.44	AT 221.52
8100.0	8099.32	0.71	42.494	01.21	243.94	31.43 S 28.61 W	0.28	0.28	42.50	AT 222.31
8200.0	8199.30	0.17	44.691	01.40	231.24	32.66 S 30.51 W	0.34	0.34	44.69	AT 223.05
8300.0	8299.27	0.10	47.215	01.51	218.81	34.45 S 32.29 W	0.33	0.33	47.21	AT 223.14
8400.0	8399.24	0.03	49.551	01.19	233.28	36.10 S 33.95 W	0.47	0.47	49.55	AT 223.24
8500.0	8499.22	-0.26	51.474	01.04	230.19	37.30 S 35.47 W	0.16	0.16	51.48	AT 223.56
8600.0	8599.20	0.26	53.145	01.14	183.92	38.87 S 36.24 W	0.86	0.86	53.15	AT 222.99
8644.0	8643.19	0.61	54.027	01.43	215.13	39.76 S 36.59 W	1.69	0.75	54.03	AT 222.62

*
* THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF *
*
* 8644.0 FEET EQUALS 54.03 FEET AT 222.62 *
*

Survey Report

Multi-Shot Directional

File: Original

Job Number: 0512-420-076
 Operator: SAGE
 Well: NVANU #123

State: New Mexico
 County: Lea
 Rig: Greywolf # 714

Dip 1: -1.02 °	88.98 °	Start Date: 05/04/05	Information Provided By:
Target 1: 8,858.00 ft TVD		Finish Date: 05/12/05	Multi-Shot
VS 1: 0 ft			
Dip 2: -1.02 °	88.98 °	Magnetic Declination: 7.89 East (T-G)	Horizontal Coordinator(s):
Target 2: 8,858.00 ft TVD		Corrected to grid	Vernon Aubin / Jim Fisher
VS 2: 1,832 ft		Direction: 133.27	

SVY #	MEASURED DEPTH	INCL. (DRIFT)	AZIMUTH (DIR)	TRUE		DLS/ 100	ACTUAL BUR	BUR REQ'D	CENTERLINE				TARGET LINE	QUAD FORMAT
				VERTICAL DEPTH	VERTICAL SECTION				ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)	NORTH(+) SOUTH(-)	EAST(+) WEST(-)		
118	8644	1.43	215.13	8643.19	0.61	1.69		25.54	214.82	54.03	-39.76	-36.59	8858.01	S 35.1 W
1	8746	6.00	129.50	8744.99	6.12	5.94	4.48	44.47	113.12	54.94	-44.20	-33.21	8858.11	S 50.5 E
2	8756	10.10	117.40	8754.89	7.48	44.14	41.00	44.80	103.24	54.67	-44.93	-32.02	8858.13	S 62.6 E
3	8766	15.30	111.20	8764.64	9.55	53.68	52.00	44.05	93.53	53.93	-45.81	-30.01	8858.17	S 68.8 E
4	8776	21.50	108.80	8774.13	12.44	62.45	62.00	42.05	84.09	52.67	-46.88	-27.05	8858.22	S 71.2 E
5	8786	25.10	112.40	8783.31	16.09	38.70	36.00	42.78	74.98	51.16	-48.28	-23.35	8858.29	S 67.6 E
6	8796	29.70	119.70	8792.19	20.49	56.89	46.00	42.36	66.18	49.82	-50.32	-19.23	8858.36	S 60.3 E
7	8806	35.40	121.30	8800.61	25.73	57.64	57.00	40.25	57.84	48.64	-53.05	-14.60	8858.46	S 58.7 E
8	8814	40.40	121.70	8806.92	30.54	62.58	62.50	37.57	51.62	47.64	-55.62	-10.41	8858.54	S 58.3 E
9	8824	45.80	122.10	8814.22	37.24	54.07	54.00	34.92	44.44	46.29	-59.23	-4.62	8858.66	S 57.9 E
10	8834	51.10	122.80	8820.85	44.59	53.26	53.00	31.83	37.94	44.89	-63.25	1.70	8858.79	S 57.2 E
11	8845	58.50	123.30	8827.19	53.43	67.37	67.27	24.94	31.76	43.30	-68.15	9.22	8858.95	S 56.7 E
12	8855	63.20	123.40	8832.06	62.03	47.01	47.00	21.09	27.04	41.79	-72.95	16.52	8859.10	S 56.6 E
13	8865	66.00	123.30	8836.35	70.93	28.01	28.00	19.85	22.91	40.24	-77.91	24.06	8859.26	S 56.7 E
14	8875	67.80	123.50	8840.27	79.99	18.09	18.00	20.22	19.15	38.66	-82.98	31.74	8859.42	S 56.5 E
15	8885	69.40	123.60	8843.92	89.16	16.03	16.00	21.16	15.66	37.09	-88.12	39.50	8859.59	S 56.4 E
16	8895	70.90	123.80	8847.32	98.44	15.12	15.00	22.76	12.43	35.53	-93.34	47.33	8859.75	S 56.2 E
17	8905	72.50	124.10	8850.46	107.81	16.25	16.00	24.89	9.46	33.99	-98.64	55.20	8859.92	S 55.9 E
18	8915	74.70	124.40	8853.28	117.28	22.19	22.00	26.02	6.81	32.48	-104.04	63.13	8860.09	S 55.6 E
19	8925	76.60	124.70	8855.76	126.86	19.22	19.00	29.63	4.50	31.02	-109.54	71.11	8860.26	S 55.3 E
20	8935	78.00	125.00	8857.96	136.51	14.30	14.00	42.47	2.47	29.59	-115.11	79.11	8860.43	S 55.0 E
21	8945	79.80	125.40	8859.88	146.22	18.42	18.00	102.22	0.72	28.21	-120.77	87.13	8860.60	S 54.6 E
22	8955	81.30	125.90	8861.52	156.00	15.79	15.00	-68.58	-0.75	26.90	-126.52	95.15	8860.77	S 54.1 E
23	8971	82.40	126.50	8863.79	171.72	7.81	6.88	-13.79	-2.74	24.95	-135.87	107.93	8861.05	S 53.6 E
24	9002	87.00	127.70	8866.65	202.40	15.33	14.84	-0.68	-5.06	21.64	-154.48	132.54	8861.60	S 52.3 E
25	9033	88.90	128.00	8867.76	233.24	6.20	6.13	0.00	-5.62	18.71	-173.49	157.00	8862.15	S 52.0 E
26	9065	90.40	128.30	8867.96	265.11	4.78	4.69	-0.33	-5.25	15.86	-193.26	182.16	8862.71	S 51.7 E
27	9096	91.60	128.80	8867.42	296.00	4.19	3.87	-1.44	-4.16	13.31	-212.57	208.40	8863.26	S 51.2 E
28	9127	89.90	127.80	8867.01	326.88	6.36	-5.48	-0.23	-3.20	10.62	-231.79	230.73	8863.81	S 52.2 E
29	9158	89.10	126.90	8867.28	357.71	3.88	-2.58	0.00	-2.92	7.42	-250.59	255.37	8864.36	S 53.1 E
30	9189	88.60	126.00	8867.90	388.48	3.32	-1.61	-0.04	-3.00	3.74	-269.01	280.30	8864.91	S 54.0 E
31	9221	88.00	125.90	8868.85	420.21	1.90	-1.87	-0.25	-3.38	-0.33	-287.78	306.20	8865.47	S 54.1 E
32	9253	87.20	125.80	8870.19	451.91	2.52	-2.50	-0.67	-4.16	-4.46	-306.51	332.11	8866.03	S 54.2 E
33	9284	88.80	125.90	8871.28	482.63	5.17	5.16	-0.01	-4.70	-8.46	-324.65	357.22	8866.58	S 54.1 E
34	9316	89.20	125.40	8871.83	514.35	2.00	1.25	-0.01	-4.69	-12.71	-343.30	383.22	8867.14	S 54.6 E
35	9348	88.10	124.50	8872.59	546.00	4.44	-3.44	-0.14	-4.88	-17.33	-361.63	409.44	8867.71	S 55.5 E
36	9380	89.90	125.00	8873.15	577.64	5.84	5.63	-0.15	-4.88	-22.07	-379.86	435.73	8868.27	S 55.0 E
37	9412	89.50	124.70	8873.31	609.29	1.56	-1.25	-0.05	-4.48	-26.76	-398.15	461.99	8868.83	S 55.3 E
38	9443	89.50	124.50	8873.58	639.94	0.65		-0.06	-4.21	-31.43	-415.75	487.50	8869.38	S 55.5 E
39	9475	87.70	124.20	8874.37	671.54	5.70	-5.62	-0.32	-4.43	-36.39	-433.80	513.92	8869.94	S 55.8 E
40	9506	88.50	125.50	8875.39	702.19	4.92	2.58	-0.04	-4.91	-40.93	-451.50	539.34	8870.48	S 54.5 E
41	9538	87.80	124.80	8876.43	733.85	3.09	-2.19	-0.23	-5.38	-45.45	-469.92	565.49	8871.05	S 55.2 E
42	9569	86.80	125.10	8877.89	764.49	3.37	-3.23	-0.66	-6.30	-49.93	-487.66	590.87	8871.59	S 54.9 E
43	9601	86.10	124.70	8879.87	796.09	2.52	-2.19	-0.94	-7.72	-54.58	-505.93	617.07	8872.15	S 55.3 E
44	9633	86.10	124.60	8882.05	827.65	0.31		-0.78	-9.33	-59.36	-524.08	643.33	8872.71	S 55.4 E
45	9664	85.40	124.40	8884.34	858.21	2.35	-2.26	-1.01	-11.09	-64.08	-541.59	668.81	8873.26	S 55.6 E
46	9696	85.40	124.40	8886.91	889.72	0.00		-0.85	-13.09	-68.99	-559.61	695.13	8873.82	S 55.6 E
47	9727	85.20	124.20	8889.45	920.24	0.91	-0.65	-0.83	-15.09	-73.81	-577.02	720.65	8874.36	S 55.8 E
48	9759	85.00	123.60	8892.18	951.70	1.97	-0.63	-0.80	-17.26	-79.00	-594.81	747.11	8874.92	S 56.4 E
49	9790	84.60	122.90	8894.99	982.10	2.59	-1.29	-0.86	-19.53	-84.37	-611.73	772.93	8875.46	S 57.1 E
bit	9846	84.60	122.90	8900.26	1036.94	0.00		-0.70	-23.83	-94.41	-642.02	819.74	8876.43	S 57.1 E

