STREAM SURVEY LINES

SURVEY LINE	STA. NO.	DATE OCT 91
NORTH FORK BOARDING-HOUSE CREEK	0	9531.56
	1	9508.99
	2	9492.22
	3	9483.26
	4	9472.01
	5	9463.08
	6	9448.79
	7	9434.84
	8	9418.59
	9	9409.32
	10	9394.76
	11	9377.91
	12	9366.99
	13	9357.30
	14	9352.44
	15	9344.00
	16	9334.99
	17	9331.40
	18	9327.00
	19	9319.05
	20	9311.93
	21	9309.38
	22	9307.78
	23	9302.51
	24	9301.12
	25	9292.07
	26	9283.82
	27	9276.27
	28	9274.99
	29	9268.52
	30	9261.23
	31	9650.26
	32	9622.26
	33	9595.87
	34	9571.63
	35	9549.50
	36	9531.04
	37	9517.80
	38	9501.10
	39	9481.57
	40	9472.03
	41	9457.49
	42	9437.07
	43	9419.24
	44	9406.32
	45	9391.37
	46	9370.10
	47	9359.66
	48	9356.74
	49	9339.78
	50	9436.78
	51	9412.70
	52	9387.43
	53	9384.39
	54	9351.17
	55	9333.62
	56	9320.49
	57	9307.17
	58	9300.69
	59	9286.93
	60	9273.48

STREAM SURVEY LINES

SURVEY LINE	STA. NO.	DATE OCT 83	AUG 90	OCT 92
1st RIGHT	0	9514.24	*	*
	50	9504.97	9505.98	9506.34
	100	9497.97	9497.97	9498.43
	150	9487.79	9487.77	9487.95
	200	9475.01	9474.98	9475.16
	250	9464.87	9464.83	9465.01
	300	9456.88	*	9456.45
	350	9442.50	9442.38	9442.51
	400	9430.02	9429.84	9430.03
	450	9417.44	9417.27	9417.47
	500	9403.66	9403.53	9403.71
	550	9389.72	9389.54	9389.73
	600	9390.33	*	9390.12
	650	9404.49	9404.29	9404.49
	700	9418.90	9418.72	9418.90
	750	9429.84	9429.57	9429.73
	800	9440.97	9440.77	9440.99
	850	9449.78	9449.74	9449.98
	900	9457.69	9457.43	9457.59
	950	9463.77	9463.72	9463.88
	1000	9467.62	9467.40	9467.66
	1050	9470.53	9470.32	9470.49
	1100	9475.18	9475.10	9475.26
	1150	9483.84	9483.80	9483.52
	1200	9497.18	9497.10	9497.35
	1250	9515.53	9515.49	9515.65
	1300	9531.11	9531.14	9531.30
	1350	9540.05	9539.79	9539.99
	1400	9537.96	9537.90	9538.07
	1450	9536.69	*	*
	1500	9538.25	9538.22	9538.37
2nd RIGHT	0	9485.82	9485.78	9485.76
	50	9470.72	*	*
	100	9469.39	9469.15	9469.12
	150	9457.46	9457.31	9457.28
	200	9451.26	9451.17	9451.16
	250	9438.06	9438.08	9437.85
	300	9425.95	9425.79	9425.98
	350	9412.73	*	*
	400	9397.91	9397.93	9397.86
	450	9384.43	*	*
	500	9370.93	9370.87	9370.91
	550	9356.66	9356.25	9356.30
	600	9341.36	9341.09	9341.09
	650	9333.86	9333.55	9333.60
	700	9330.53	9329.98	9330.01
	750	9329.39	9328.51	9328.54
	800	9333.11	9332.20	9332.20
	850	9333.82	9333.04	9333.04
	900	9339.19	9338.57	9338.57
	950	9342.41	9341.87	9341.86
	1000	9350.98	9350.44	9350.44
	1050	9360.16	9359.70	9359.70
	1100	9368.71	9368.38	9368.38
	1150	9377.02	9376.82	9376.83
	1200	9387.10	9386.95	9387.08
	1250	9393.44	9393.47	9393.53
	1300	9399.16	9399.23	9399.29
	1350	9405.18	9405.28	9405.35
	1400	9411.48	9411.50	9411.58
	1450	9419.98	*	*
	1500	9427.23	9427.34	9427.43
3rd RIGHT	0	9471.16	9471.15	9471.15
	50	9454.88	9454.96	9454.98
	100	9440.31	9440.33	9440.40
	150	9426.60	9426.62	9426.69
	200	9412.56	9412.56	9412.64
	250	9398.42	9398.41	9398.52
	300	9382.10	*	*
	350	9367.91	9367.67	9368.04
	400	9353.35	9353.30	9353.47
	450	9339.76	9339.67	9339.86
	500	9325.39	9324.88	9325.11
	550	9310.97	9310.82	9311.04
	600	9297.05	9296.81	9297.06
	650	9294.24	*	*
	700	9296.55	9296.21	9296.38
	750	9306.99	9306.41	9306.60
	800	9320.12	9319.12	9319.27
	850	9333.01	9331.29	9331.82
	900	9348.44	9347.32	9347.36
	950	9363.52	9362.11	9362.57
	1000	9377.07	9376.22	9376.25
	1050	9390.16	9389.70	9389.74
	1100	9405.42	9404.86	9404.92
	1150	9417.49	9417.26	9417.20
1st LEFT	0	9504.26	*	*
	50	9491.41	9491.61	9491.54
	100	9476.35	9476.47	9476.45
	150	9462.46	9462.61	9462.58
	200	9449.63	9449.67	9449.71
	250	9438.28	9438.28	9438.32
	300	9427.84	9427.85	9427.86
	350	9414.35	9414.16	9414.11
	400	9395.90	9395.50	9395.54
	450	9381.33	9380.98	9380.89
	500	9369.60	9367.29	9367.15
	550	9355.90	9355.58	9355.47
	600	9343.81	9343.51	9343.39
	650	9328.43	9328.51	9328.88
	700	9312.26	9312.05	9311.66
	750	9299.04	9298.87	9298.46
	800	9286.10	9285.88	9285.81
	850	9273.21	9273.02	9272.75
	900	9259.98	9259.79	9259.55
	950	9249.53	9249.54	9242.99
	1000	9229.20	9228.82	9228.63
	1050	9219.84	9215.68	9215.39
	1100	9203.79	9203.66	9203.41
	1150	9193.37	9193.22	9193.02
	1200	9177.83	9177.61	9177.86
	1250	9163.62	9162.21	9162.01
	1300	9147.31	9147.08	9146.89
	1350	9132.48	9132.24	*
	1400	9122.01	*	*
	1450	9107.34	9107.08	9106.85
	1500	9098.12	9094.90	9094.74
2nd LEFT	0	9478.56	*	9478.49
	50	9479.13	*	9479.12
	100	9474.89	9474.92	9474.91
	150	9464.16	9464.16	9464.00
	200	9449.51	9448.44	9449.21
	250	9434.07	9433.77	9433.45
	300	9417.08	9417.16	9416.60
	350	9403.81	9403.37	9401.84
	400	9380.96	9380.45	9376.96
	450	9366.93	9366.45	9360.39
	500	9354.54	9354.04	9346.62
	550	9339.19	9338.72	9330.92
	600	9318.25	*	*
	650	9294.43	9294.09	9286.07
	700	9276.64	9276.34	9268.17
	750	9261.29	9261.09	9253.12
	800	9248.26	9248.10	9240.70
	850	9237.17	9237.04	9230.65
	900	9223.56	9223.44	*
	950	9211.61	9210.96	9206.02
	1000	9200.60	9200.32	9195.64
	1050	9190.56	9190.49	9186.08
	1100	9178.95	9178.87	9175.26
	1150	9164.98	9163.89	9161.20
	1200	9154.18	9153.89	9152.82
	1250	9144.82	9144.51	9144.29
	1300	9133.75	9133.46	9133.48
	1350	9118.02	9117.68	9117.76
	1400	9103.24	9102.90	9102.87
	1450	9102.16	9101.80	9101.87
	1500	9094.01	9093.71	9093.71
	1550	9083.10	9082.69	9082.69
3rd LEFT	0	9490.54	9490.50	9490.49
	50	9491.92	9491.89	9491.76
	100	9486.12	9485.86	9485.75
	150	9476.74	9476.06	9475.57
	200	9463.86	9462.70	9459.88
	250	9450.88	9449.25	9445.91
	300	9438.05	9435.90	9432.14
	350	9422.72	9420.03	9415.79
	400	9406.46	9402.84	9398.16
	450	9388.41	9384.38	9379.31
	500	9372.32	*	*
	550	9361.33	9356.40	9350.95
	600	9353.95	9347.93	9342.28
	650	9345.10	9340.30	9334.47
	700	9336.53	9331.50	9325.64
	750	9324.63	9319.81	9314.15
	800	9316.78	9311.38	9306.21
	850	9308.72	9304.02	9299.23
	900	9301.27	9296.96	9292.23
	950	9293.98	9291.46	9286.86
	1000	9280.33	9278.12	9274.84
	1050	9267.33	9264.70	9262.24
	1100	9257.33	9254.98	9252.64
	1150	9249.86	9249.69	9245.65
	1200	9242.83	9242.73	9239.00
	1250	9236.45	9236.38	9232.68
	1300	9230.87	9230.80	9227.11
	1350	9225.27	9225.19	9221.45
	1400	9219.16	9219.01	9215.30
	1450	9214.09	9214.03	9210.41
	1500	9209.09	9208.91	9205.59
	1550	9204.18	9204.10	9201.55
	1600	9200.57	9200.49	9198.91
	1650	9196.01	9195.94	9195.10
	1700	9192.07	9191.92	9191.47
	1750	9187.05	9186.81	9186.66
	1800	9181.61	9181.46	9181.58
	1850	9177.36	9177.24	9177.45

* MONUMENT NOT FOUND

SURVEY MONUMENT COORDINATES

SURVEY STATION	VALLEY CAMP LOCAL COORDINATES NORTH	EAST	STATE PLANE COORDINATES NORTH	EAST	ELEVATION
BH-3	4617.75	-7,538.16	483,094.07	2,090,182.13	9,633.90
BH-5	8007.82	-10,995.79	486,458.40	2,086,701.37	9,477.02
VC-1	6675.84	-6,658.70	485,157.19	2,091,045.80	9,645.43
VC-2	7085.35	-9,508.81	485,545.58	2,088,194.29	8,973.99
VC-3	6016.68	-9,809.89	486,474.13	2,087,886.47	9,211.78
"B"	-1415.58	-10,715.16	477,040.93	2,087,051.59	9,897.29
"P"	3700.00	-12,700.00	482,137.84	2,085,025.59	9,942.39
"C"	-454.00	-8,973.00			9,735.00
"A"	2375.32	-9,000.59			9,562.00
FAN	7130.101	-9,923.041			9,041.30

NOTE: MAP REDRAWN 8/90

REVISIONS

4/92	ADDED N.FK. MILLER CK DATA
10/92	REVISED STREAM SURVEY LINES

LEGEND

- LEASE BOUNDARY
- GAS LINE
- BH-5 — SURVEY MONUMENT
- 500 — EXISTING SURVEY LINE WITH STATION
- FUTURE POTENTIAL STREAM SURVEY LINE
- BOARDINGHOUSE CREEK BUFFER ZONE
- PIPE COVER LINES (@ 35° DRAW ANGLE)
- BELINA NO. 2
- BELINA NO. 1 UPPER O'CONNOR MINE WORKINGS
- PILLARED AREA
- FULL SEAM EXTRACTION
- PROJECTED COAL ANGLE OF DRAW
- FAULT INFLUENCED ANGLE OF DRAW

REGISTERED PROFESSIONAL ENGINEER #7888 DAVID E. HANSEN STATE OF UTAH

CERTIFICATION

I certify that to the best of my knowledge the subsidence information contained on this map is true and accurate of field conditions noted at the time the data was collected.

VALLEY CAMP OF UTAH, INC.

SCOFIELD ROUTE, HELPER, UTAH 84526

TITLE: MAP R645-301-728.100b SUBSIDENCE SURVEY LOCATION MAP

Drawn by: JVH	Date: 1/91
Approval: DEH	Date: 1/91
Drawing No.	Rev. 2/93

HANSEN ALLEN & LUCE inc — Salt Lake City Utah

2" INTERVALS — SCALE: 1" = 500' — SHEET 1 OF 1

007.011.100.014A