

Table 7-14 Summary of Consolidated Isotropically Undrained Triaxial Tests
EAST CONTRACT
Brightwater Conveyance System

Boring No.	Sample Top Depth (ft)	Elevation (ft) ^a	Geologic Unit	Effective Confining Pressure (ksf)	Initial Conditions			After Consolidation			Failure @ R _{max} ^b				Failure @ q _{max} ^c				E _i ^d (ksf)	E ₅₀ ^e (ksf)
					W (%)	γ _{dry} (pcf)	e	W (%)	γ _{dry} (pcf)	e	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r		
BRIGHTWATER TUNNEL 1																				
E-350	200.0	23.4	Qpogl	15.8	22.6	103.2	0.66	24.9	103.2	0.66	29.8	22.6	13.6	NR	31.6	24.4	14.4	NR	4,941	1,574
E-351	159.0	62.9	Qpogl	25.9	32.4	90.5	0.90	28.8	94.0	0.83	31.9	24.7	11.8	NR	33.0	25.8	12.1	NR	5,910	3,028
E-351	159.5	62.4	Qpogl	13.0	29.9	93.7	0.83	28.3	94.7	0.81	28.7	15.6	8.6	NR	31.3	18.2	9.5	NR	2,697	1,176

Notes:

- a) Vertical datum = Metro. All locations surveyed to +/- 0.1 foot accuracy with the exception of some off alignment borings (noted as scaled on the log) which were estimated.
- b) Failure defined by maximum principal stress ratio.
- c) Failure defined by maximum principal stress difference.
- d) Initial secant modulus E_i taken at 0.1% strain.
- e) Young's secant modulus E₅₀ taken at 50% of q at failure @ R_{max}.
- f) For all Geologic Unit descriptions, see Figure 3-1.

Table 7-14 Summary of Consolidated Isotropically Undrained Triaxial Tests
CENTRAL CONTRACT
Brightwater Conveyance System

Boring No.	Sample Top Depth (ft)	Elevation (ft) ^a	Geologic Unit	Effective Confining Pressure (ksf)	Initial Conditions			After Consolidation			Failure @ R _{max} ^b				Failure @ q _{max} ^c				E _i ^d (ksf)	E ₅₀ ^e (ksf)
					W (%)	γ _{dry} (pcf)	e	W (%)	γ _{dry} (pcf)	e	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r		
BRIGHTWATER TUNNEL 3																				
E-305	297.0	146.4	Qpogl	10.1	19.8	108.3	0.59	23.0	108.3	0.56	18.5	14.9	8.5	0.10	19.7	17.8	9.6	0.10	2,890	1,067
E-310	232.0	121.2	Qpogl	5.0	29.1	94.5	0.78	28.2	97.4	0.76	7.9	6.8	2.9	0.19	8.0	7.0	3.0	0.15	1,212	529
E-310	232.5	120.7	Qpogl	14.9	31.8	91.2	0.81	28.7	97.4	0.76	21.4	13.0	6.4	0.66	21.4	13.1	6.4	0.65	1,858	1,165
E-310	233.0	120.2	Qpogl	30.2	32.0	91.1	0.95	28.9	91.3	0.88	37.8	21.7	7.5	1.07	37.8	21.7	7.5	1.07	2,439	1,794
E-311	161.5	117.6	Qpfnf	5.0	26.1	96.3	0.72	22.9	100.1	0.71	10.1	8.5	5.2	0.15	17.6	21.4	12.7	(0.15)	1,538	528
E-311	162.0	117.1	Qpfnf	15.1	22.4	100.9	0.62	22.4	106.6	0.61	25.9	17.8	10.9	0.38	32.9	30.8	17.9	0.06	2,590	1,350

Notes:

- a) Vertical datum = Metro. All locations surveyed to +/- 0.1 foot accuracy with the exception of some off alignment borings (noted as scaled on the log) which were estimated.
- b) Failure defined by maximum principal stress ratio.
- c) Failure defined by maximum principal stress difference.
- d) Initial secant modulus E_i taken at 0.1% strain.
- e) Young's secant modulus E₅₀ taken at 50% of q at failure @ R_{max}.
- f) For all Geologic Unit descriptions, see Figure 3-1.

Table 7-14 Summary of Consolidated Isotropically Undrained Triaxial Tests
WEST CONTRACT
Brightwater Conveyance System

Boring No.	Sample Top Depth (ft)	Elevation (ft) ^a	Geologic Unit	Effective Confining Pressure (ksf)	Initial Conditions			After Consolidation			Failure @ R _{max} ^b				Failure @ q _{max} ^c				E _i ^d (ksf)	E ₅₀ ^e (ksf)
					W (%)	γ _{dry} (pcf)	e	W (%)	γ _{dry} (pcf)	e	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r	p (ksf)	p' (ksf)	q _{max} (ksf)	A _r		
BRIGHTWATER TUNNEL 4																				
E-202	180.0	219.1	Qvlc	36.0	29.5	85.1	1.06	28.50	86.3	0.99	48.1	31.1	12.1	0.71	49.4	35.0	13.4	0.54	2,070	1,983
E-202	181.5	217.6	Qvlc	20.0	18.5	97.2	0.94	33.70	90.9	0.89	16.1	8.6	6.2	0.61	16.7	9.0	6.4	0.58	1,823	1,558
E-202	182.0	217.1	Qvlc	20.0	20.1	92.7	0.96	34.00	89.8	0.91	28.6	15.0	8.6	0.79	28.6	15.1	8.6	0.79	3,570	2,813
E-204	321.0	195.3	Qpfnl	35.4	16.4	104.5	0.65	21.40	105.7	0.63	68.6	53.6	33.3	0.22	68.7	54.0	33.3	0.22	3,970	3,970
E-204	321.5	194.8	Qpfnl	10.1	20.3	100.9	0.77	26.40	98.1	0.75	20.6	16.0	10.6	0.22	30.0	34.0	20.0	(0.10)	3,165	1,630
E-204	322.0	194.3	Qpfnf	24.5	32.5	97.1	0.67	23.00	106.1	0.62	3.4	24.9	14.8	0.49	39.7	25.6	15.1	0.47	4,720	3,110
E-210	160.0	249.5	Qpogl	9.9	13.6	115.3	0.50	18.10	116.4	0.48	18.2	11.8	8.1	0.39	22.3	21.6	12.2	0.03	3,434	2,227

Notes:

- a) Vertical datum = Metro. All locations surveyed to +/- 0.1 foot accuracy with the exception of some off alignment borings (noted as scaled on the log) which were estimated.
- b) Failure defined by maximum principal stress ratio.
- c) Failure defined by maximum principal stress difference.
- d) Initial secant modulus E_i taken at 0.1% strain.
- e) Young's secant modulus E₅₀ taken at 50% of q at failure @ R_{max}.
- f) For all Geologic Unit descriptions, see Figure 3-1.