

Leaching Study

Orange County

Forestry Suppliers, Inc.

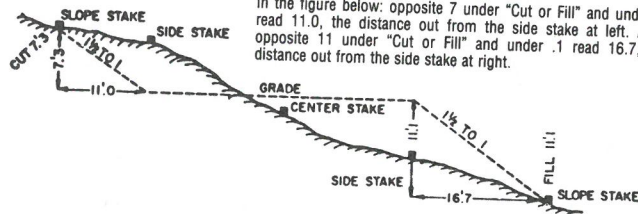
1-800-647-5368

49354 Level Book

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

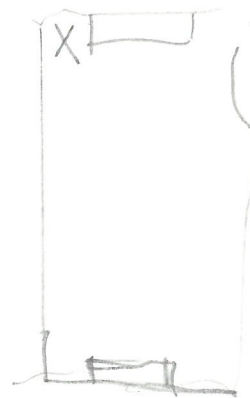
Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

1182-1183



The paper in this book is made of 50% high grade rag stock with a WATER RESISTING surface sizing.

[illegible]

	Beaker #	Depth		
		min	max	
	15	1099	1100	L1 L1S
AL	16	1117.8	1118.6	L2S
✓	17	1130.4	1131.3	L3S
AL	18	1155	1156	L4S
	19	1155	1156 Dup	L4aS
✓	20	1182	1183	L5S
✓	21	1209	1210	L6S
	22	Blank		LBS

7-25-06

Fill Vessels w/ DI

Soak $\approx$ 3 hours

Vessel #	Time DI Add	Time DI Extracted	Condus	Sample ID
15	12:15	3:15	67.0	167
16	12:25	3:23	80.3	168
17	12:35	3:33	159.6	169
18	12:45	3:43	69.1	170
19	12:55	3:53	82.9	171
20	1:05	4:03	73.6	172
21	1:15	4:13	123.5	173
22	Blank	↑	337	
DDI		Start time	1.67	OC DI Source

Measured DO of DI water 5.6 mg/L

Applied vacuum at 1:25

Vacuum off at 2:30

Started taking Cond. readings + Sampling at 2:30

Sparged Source water w/ Air $\approx$ 1 hour.

Refill w/ source water

Starting at 4:25

Finished filling at 4:40

Took Samples of Source water

DO 8.1 Cond. us 337. Start sampling tomorrow Morning

Put Stoppers on all Vessels sealed No air + N₂.

Sample#

7-26-06 9:00am Air

	Conduc	pH	Temp	DO	ORP
187	329	8.14	25.0	7.2	169.9
188	347	8.15	25.1	7.6	175.2
189	370	8.23	25.1	7.6	178.3
190	337	8.25	25.2	7.5	180.1
191	345	8.28	25.2	7.4	181.8
192	328	8.21	25.2	7.5	184.5
193	327	8.06	25.2	7.3	188.0
194	342	8.22	25.2	7.6	517.7

used 0.2 μ filter this
day only.

Beaker

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No Samples

Air 7-27-06 9:00am
Conducs pH Temp DO ORP

327	8.03	25.2	6.7	186.5
350	8.15	25.3	6.4	189.0
377	8.20	25.3	6.4	191.9
357	8.25	25.3	6.2	191.2
339	8.24	25.4	6.3	191.3
335	8.20	25.4	6.5	196.8
325	8.00	25.4	6.5	204.3
345	8.31	25.4	7.5	473.4

Beaker

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Sample #	7-28-06 8:00	Air			
	Condus	pH	Temp	DO	ORP
208	322	8.02	25.0	7.4	234.1
209	363	8.04	25.0	7.3	235.2
210	380	8.12	25.1	7.3	234.6
211	361	8.19	25.1	7.3	237.8
212	362	8.21	25.1	7.2	236.4
213	352	8.16	25.1	7.4	239.7
214	327	7.96	25.2	7.1	242.4
	341	8.27	25.2	7.8	491.5

Beaker #

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Sample #	Conds	pH	Temp	DO	ORP
229	334	7.97	25.1	7.5	195.8
230	373	8.01	25.2	7.5	195.8
231	401	8.03	25.2	7.4	196.4
232	372	8.10	25.3	7.4	195.1
233	364	8.14	25.3	7.4	195.3
234	354	8.07	25.3	7.5	210.0
235	337	7.85	25.3	7.3	214.8
236	336	8.24	25.3	7.8	257.0

Air

Beaker #

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Sample #	ConduS	pH	Temp	DO	ORP
250	331	7.86	25.1	7.5	203.2
251	379	7.90	25.1	7.5	204.4
252	463	7.94	25.1	7.5	207.5
253	373	8.01	25.2	7.4	205.9
254	370	8.08	25.2	7.5	208.2
255	365	8.00	25.2	7.5	210.9
256	331	7.82	25.3	7.4	215.4
	341	8.22	25.3	7.8	212.9

Air Headspace

Beaker

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Sample #	8-4-06	8:00 am			
	ConduS	pH	Temp	DO	ORP
270	331	7.75	25.0	7.4	197.0
271	380	7.93	25.0	7.5	198.3
272	408	7.99	25.1	7.4	198.8
273	370	8.01	25.1	7.5	198.2
274	374	8.09	25.1	7.4	198.0
275	369	7.97	25.1	7.3	201.2
276	334	7.74	25.2	7.6	207.0
	344	7.85	25.2	5.8	207.4

Beaker #

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Sample #	Conduc	pH	Temp	DO	ORP
291	330	7.73	25.2	7.4	196.4
292	385	7.88	25.3	7.5	197.1
293	400	7.92	25.3	7.5	197.1
294	376	7.98	25.3	7.5	196.3
295	373	8.04	25.4	7.5	195.7
296	354	7.96	25.4	7.5	199.2
297	320	7.78	25.4	7.3	202.7
298	344	7.88	25.4	7.4	204.2

Air

Started Hungate w/
N₂ about 012:20

Baker

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Sample #	8-8-06 Conduc	8-8-06 pH	8:10 Temp	8:10 DO	ORP
313	331	8.06	24.7	2.8	228.7
314	378	8.00	24.9	2.9	228.0
315	411	8.00	24.9	2.7	225.9
316	372	8.02	25.0	2.7	225.0
317	363	8.04	25.1	2.6	223.9
318	357	8.01	25.1	2.5	225.0
319	331	7.86	25.2	2.4	226.3
320	335	8.01	25.2	2.4	224.4

N₂

Beaker #

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Sample #	8-9-06		8:30am		
	Conduc	pH	Temp	DO	ORP
334	322	8.17	24.5	1.2	237.8
335	373	8.21	24.8	1.3	234.2
336	403	8.19	24.8	1.7	231.9
337	371	8.23	24.9	0.9	228.4
338	363	8.22	25.0	1.3	226.4
339	363	8.14	24.9	1.0	226.7
340	332	7.98	24.8	0.9	227.7
	342	8.18	25.1	0.7	223.1

N₂ Hungate

Beaker

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No Samples

8-10-06			8:15am	
Cond	pH	Temp	DO	ORP
325	8.07	24.2	0.7	249.0
373	8.06	24.6	0.8	245.4
406	8.04	24.6	0.9	242.2
367	8.04	24.7	0.5	237.9
365	8.04	24.7	0.7	233.6
365	7.99	24.7	0.5	233.5
332	7.86	24.8	0.5	233.4
340	8.11	25.0	0.4	227.0

N2

Beaker
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Sample #	Conducs	pH	Temp	DO	ORP
354	297	8.24	24.5	0.3	248.4
355	365	8.25	24.7	0.4	245.4
356	392	8.26	24.7	0.7	242.8
357	367	8.30	24.7	0.2	238.8
358	363	8.31	24.6	0.5	236.5
359	360	8.29	24.7	0.2	234.7
360	322	8.13	24.7	0.2	235.6
	338	8.41	24.8	0.1	228.9

N₂

Beaker #

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Sample #	Conduc	pH	Temp	DO	ORP
375	308	8.14	24.7	0.9	229.8
376	365	8.08	24.8	0.2	226.0
377	367	8.07	24.9	1.5	226.2
378	354	8.15	25.0	0.2	221.2
379	355	8.15	25.0	1.0	218.7
380	356	8.13	25.0	0.2	218.6
381	320	7.98	24.9	0.2	219.7
382	338	8.35	24.6	0.2	213.2

N2

Beaker

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Sample #	Conduc	pH	Temp	DO	ORP
396	305	8.10	24.7	0.3	224.3
397	357	8.11	24.8	0.4	221.8
398	380	8.07	25.0	0.3	219.6
399	341	8.16	25.0	0.2	214.3
400	353	8.18	25.0	0.2	212.4
401	351	8.13	24.9	0.3	212.8
402	311	7.99	25.1	0.2	212.2
—	341	8.35	25.2	0.2	206.2

N₂

Beaker #

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Sample		8-18-06		N2	8:00
#	Conds	pH	Temp.	DO	ORP
417	298	8.18	24.9	0.3	248.2
418	351	8.13	24.9	0.3	241.7
419	381	8.07	25.0	0.8	239.7
420	328	8.12	25.0	0.2	237.1
421	344	8.12	25.1	0.2	233.6
422	344	8.09	25.1	0.4	233.0
423	302	7.98	25.0	0.2	228.9
	338	8.28	24.4	0.3	221.6

Beaker

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Sample #	Condus	pH	Temp	DO	ORP
424	299	7.92	24.7	0.4	138.8
425	349	8.15	25.0	0.4	161.0
426	378	8.20	24.9	0.3	166.2
427	349	8.27	25.1	0.2	162.1
428	343	8.29	25.1	0.2	160.0
429	330	8.16	25.2	0.4	163.6
430	308	8.08	25.1	0.2	159.9
431	342	8.44	25.3	0.2	158.8

N2

Beaker

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Sample
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8-23-06

7:30

Conduc

pH

Temp

DO

ORP

432	302	7.92	25.0	0.3	144.9
433	349	8.27	25.1	0.4	150.2
434	375	8.26	25.2	0.2	155.3
435	340	8.31	25.3	0.2	154.8
436	341	8.34	25.3	0.2	155.8
437	327	8.24	25.4	0.3	159.3
438	302	8.17	25.4	0.2	155.8
	339	8.39	25.5	0.2	154.2

N₂Beaker
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Sample #	Condus	pH	Temp	DO	ORP
439	296	7.95	24.8	0.3	169.9
440	344	8.18	24.9	0.2	169.7
441	362	8.18	24.9	0.3	171.6
442	317	8.24	25.0	0.4	170.5
443	340	8.26	25.0	0.2	171.7
444	331	8.10	25.1	0.3	176.0
445	298	8.04	25.0	0.2	167.8
	338	8.32	25.2	0.2	164.1

N2

Beaker #

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Sample #	ConduS	8-28-06		8:00am N ₂	
		pH	Temp	DO	ORP
446	301	7.93	24.8	0.3	121.2
447	333	8.19	24.7	0.4	123.7
448	365	8.20	24.6	0.3	128.3
449	318	8.21	24.7	0.2	124.9
450	332	8.21	24.7	0.3	123.9
451	327	8.11	24.7	0.4	127.8
452	300	8.02	24.7	0.2	124.2
453	339	8.36	24.9	0.4	117.7

Began sparging w/ air
at 10:30 am.

Stopped sparging @ 12:30pm

Beaker #	after Do
15	7.6
16	8.0
17	7.2
18	8.2
19	7.6
20	7.5
21	7.5
22	7.6

5

8-29-06 8:00am

Conduct	pH	Temp	DO	ORP
294	8.09	25.1	7.2	182.7
331	8.22	25.1	7.2	190.4
364	8.24	25.1	7.1	197.3
330	8.29	25.2	7.2	200.5
336	8.29	25.2	7.3	202.0
319	8.23	25.2	7.1	203.7
299	8.15	25.3	6.9	209.8
342	8.35	25.3	7.4	210.4

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Sample

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Beaker
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8-30-06 8:00 am

Sample #	Cond μ S	pH	Temp	DO	ORP
454	295	8.07	25.0	7.2	218.9
455	345	8.15	25.0	7.1	219.3
456	360	8.17	25.1	7.2	220.1
457	337	8.22	25.1	7.1	219.8
458	338	8.24	25.1	7.2	220.3
459	336	8.21	25.2	7.1	221.4
460	294	8.08	25.2	6.9	223.8
	342	8.29	25.2	7.4	223.2

Air

Beaker #

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8-31-06

8:00am

Cordus	pH	Temp	DO	ORP
294	8.05	25.0	7.3	223.7
344	8.15	25.0	7.3	227.7
359	8.17	25.0	7.4	229.3
336	8.21	25.1	7.3	229.8
340	8.26	25.1	7.3	230.2
334	8.21	25.1	7.1	230.0
304	8.12	25.2	7.1	231.3
338	8.32	25.2	7.4	231.5

Beaker

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Samples

Air

Sample #	Condus	pH	Temp	DO	ORP
461	296	7.84	25.0	7.3	231.2
462	338	8.13	25.0	7.3	228.9
463	356	8.16	25.0	7.3	228.5
464	339	8.18	25.1	7.3	228.2
465	332	8.18	25.1	7.3	227.3
466	334	8.15	25.1	7.2	227.7
467	299	8.06	25.2	7.2	228.9
468	342	8.25	25.2	7.3	227.6

Beaker #

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1-29-07 Monday 7:30AM

Collect all parameters
and sample for Anions + Metals
all Orange County Samples
in Air Conditions.

Move Vessels to hood W-18722

17 1130.4 - 1131.3

| 18 1155 - 1156

| 20 1182 - 1183

↓ 21 1209 - 1210

[to the hood. Hungate with
H₂S for 60 Sec. each Vessel
Seal - Time finished - 11:09am]

Sample again at end of
day.

Sample #	Conduc	pH	Temp	DO	ORP
981	468	7.47	19.5	7.0	155.5
—	—	—	—	—	—
982	535	7.45	19.5	7.4	168.7
983	528	7.39	19.6	7.2	179.2
984	530	7.42	19.6	7.1	172.3
985	513	7.43	19.7	7.8	168.2
986	525	7.20	19.7	6.6	171.5

Air
Last Sampled
9-1-06

water level appears
low - some evaporation?

Beaker
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H₂S For 60sec
after this Sampling
11:09am

Sample 1-29-07 3:15

Sample #	Conduct	pH	Temp	DO	ORP
987	565	6.69	14.6	0.2	-305.5
988	572	6.67	15.0	0.2	-317.4
989	542	6.70	15.1	0.3	-300.0
990	572	6.64	15.1	0.3	-308.1

No Noticable Color change

Vessel 19

Sample 988 has precipitate
on bottom on 1-30-07

Hungate w/ Na

Vessel #

17

18

20

21

Sample #	Conduc	1-30-07 pH	Temp	7:30 DO	ORP
991	590	7.23	10.3	0.3	-311.0
992	592	7.31	10.7	0.3	-339.7
993	583	7.34	10.7	0.3	-330.0
994	577	7.4	10.7	0.2	-329.5

Vessel 18 + 20 are
slightly discolored

		1-30-07		3:00	
995	521	7.27	15.8	0.3	-343.2
996	523	7.34	16.1	0.3	-356.6
997	507	7.33	16.3	0.3	-348.1
998	495	7.44	16.2	0.2	-336.4

Definate Color change
especially Vessels 17, 18, 20
21 to a lesser degree

Vessel #

17

18

20

21

N2

17

18

20

21

	1-31-07	8:00 am			
	Conduct	pH	Temp	DO	ORP
999	514	7.79	13.3	0.2	-359.4
1000	519	7.76	13.8	0.3	-356.8
1001	503	7.77	13.7	0.3	-351.6
1002	483	7.80	13.7	0.3	-351.9

Vessel
#

17

18

20

21

Vessel 18 is most discolored
Reddish Brown then Vessel 20
Vessel 17+21 Slightly Kind of
Yellow Green

	2-1-07	8:00 am			
1003	489	8.00	16.0	0.3	-366.9
1004	506	7.81	16.3	0.2	-358.2
1005	490	7.85	16.3	0.3	-372.8
1006	465	7.77	16.2	0.3	-354.8

17

18

20

21

After sampling switched
to Air Sparged for 5 min
each Vessel $\Rightarrow$ 20 min. open

N₂

2-2-07 3:30 PM

Sample #	Condus	pH	Temp	DO	ORP
1007	484	7.76	17.9	5.7	+59.2
1008	488	7.64	18.2	5.8	-8.3
1009	469	7.82	18.1	5.6	-49.1
1010	450	7.68	18.1	4.5	+22.3

Most of the color is gone.

*Air.

Sampled but did not
replace water.
Source water is done

2-5-07 8:00 am

1011	495	7.03	12.9	7.2	+140.2
1012	494	7.13	13.1	7.7	+129.2
1013	486	7.14	13.2	7.7	+122.7
1014	477	6.85	13.1	5.1	+131.1

DID NOT Replace
water AFTER Sampling
Air

For 5-1-07 Sampling
event see CERP Book

Vesail
#

17
18
20
21

17
18
20
21

