TRAIL RIDGE LANDFILL
PHASE II
LANDFILL GAS MANAGEMENT SYSTEM
CERTIFICATION DOCUMENTATION

PREPARED FOR:

TRAIL RIDGE LANDFILL, INC.

AND

CITY OF JACKSONVILLE

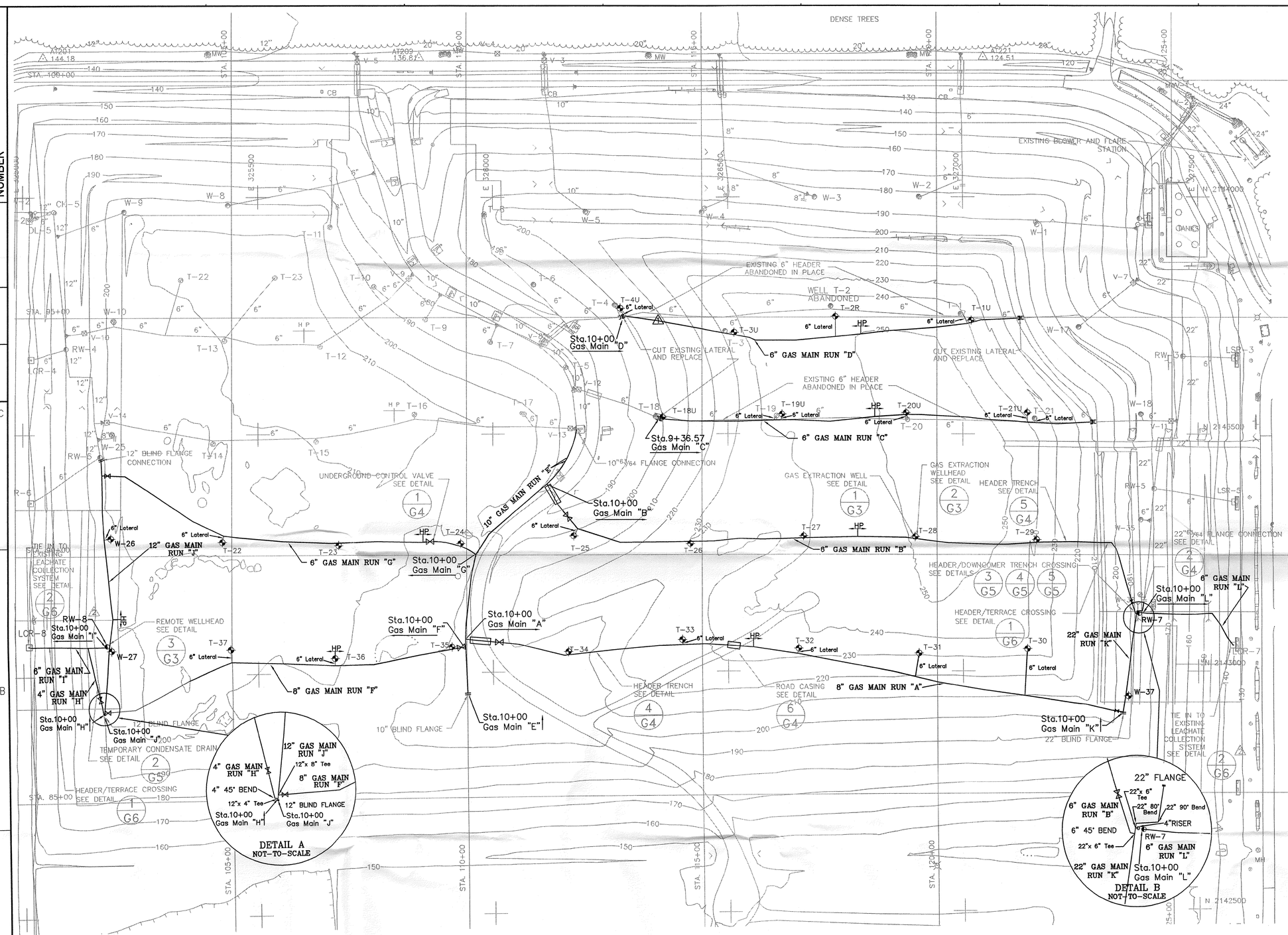
PREPARED BY:

England·Thims & Miller, Inc.
Consulting & Design Engineers
14775 St. Augustine Road
Jacksonville, Florida 32258
Certificate of Authorization Number 2584
Phone Number (904) 642-8990

JULY 31, 2002

PROJECT NUMBER: E 00-117-04

IMAGE | X-REF | OFFICE | DRAWING NUMBER



AS-BUILT LEGEND

- GAS MAIN
- GAS EXTRACTION WELL
- REMOTE WELL
- UNDERGROUND CONTROL VALVE
- ROAD CROSSING
- HP — HIGH POINT
- BLIND FLANGE
- FLANGE CONNECTION
- FUSION WELD TIE-IN CONNECTION

DESIGN LEGEND

- EXISTING CONTOURS - 10'
- EXISTING CONTOURS - 2'
- 22" — EXISTING LANDFILL GAS HEADER/LATERAL
- 22"# — PROPOSED LANDFILL GAS HEADER/LATERAL
- APPROPRIATE LIMITS OF PERMITTED WASTE PLACEMENT
- LIMIT OF CLOSURE
- EXISTING LIMIT OF CLOSURE
- W-27# — GAS EXTRACTION WELL (PROPOSED)
- UNDERGROUND CONTROL VALVE (PROPOSED)
- RW-7# — REMOTE WELLHEAD (PROPOSED)
- LCR-□ — LEACHATE CLEANOUT RISER/LEACHATE SUMP RISER (PROPOSED)
- W-5◇ — GAS EXTRACTION WELL (EXISTING)
- T-1# — TEMPORARY GAS EXTRACTION WELL (EXISTING)
- RW-1# — REMOTE WELLHEAD (EXISTING)
- DL-2## — BAROMETRIC DISPLUGS (EXISTING)
- CK-1◇ — CONDENSATE KNOCKOUT
- LCR-1/□ LSR-1 — LEACHATE CLEANOUT RISER/LEACHATE SUMP RISER (EXISTING)
- V-1## — CONTROL VALVE (EXISTING)
- REDUCER (EXISTING)
- HEADER XPEIN (EXISTING)
- FLANGE CONNECTION
- BLIND FLANGE
- ROAD CASING
- HP — HIGH POINT

DESIGN NOTES:

1. TOPOGRAPHIC MAP PROVIDED BY AIR SURVEY PHOTOGRAMMETRIC MAPPING SERVICES, DULLES, VIRGINIA. DATE OF PHOTOGRAPHY: 2/5/01.
2. ALL HEADER AND LATERAL PIPING WITHIN THE LIMITS OF WASTE TO BE INSTALLED AT A MINIMUM 3% SLOPE UNLESS OTHERWISE NOTED.
3. ALL HEADER AND LATERAL PIPING OUTSIDE THE LIMITS OF WASTE TO BE INSTALLED AT A MINIMUM 0.5% SLOPE UNLESS OTHERWISE NOTED.
4. LOCATION OF LANDFILL GAS MANAGEMENT COMPONENTS IS APPROXIMATE AND MAY VARY TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION. ALL HORIZONTAL AND VERTICAL DATUM TO BE VERIFIED PRIOR TO CONSTRUCTION.
5. ALL HEADER AND LATERAL PIPING TO BE HDPE SDR-17 AND ALL FITTINGS TO BE HDPE SDR-11 UNLESS OTHERWISE INDICATED ON DRAWINGS.
6. GAS EXTRACTION WELLS THAT ARE LABELED "W" INDICATE A PERMANENT GAS WELL, WHERE AS "T" WELLS ARE INTERIM/TEMPORARY GAS WELLS, AND TEMPORARY GAS WELLS LABELED "U" INDICATE AN UPPER DEPTH WELL, PLEASE SEE WELL SCHEDULE FOR BORING DEPTHS.
7. RESTORE FINAL COVER TO PRECONSTRUCTION CONDITION, INCLUDING PROTECTIVE SOIL LAYER RESTORATION, TO COVER SPECIFICATIONS.
8. CROSSING DRAINAGE TERRACES WILL REQUIRE RECONSTRUCTION OF DRAINAGE FEATURES TO ORIGINAL AS-BUILT CONDITION.
9. PIPELINE MARKERS SHALL BE PLACED AT ALL ROAD CROSSINGS.
10. CONTRACTOR SHALL INSTALL PIPE IN THE EXISTING PROTECTIVE SOIL LAYER. EXCAVATION DEPTH SHALL BE LIMITED TO 1.5 FT. BELOW EXISTING GRADE IN AREAS WITH FINAL COVER TO PREVENT DAMAGE TO CLAY LAYER EXCEPTION TO THIS TRENCH REQUIREMENT SHALL BE APPROVED BY OWNER.

CONTRACTOR'S STATEMENT	SURVEYOR'S STATEMENT
DATE: CO. NAME: R.B. BAKER CONSTRUCTION ADRESS: 9235 BUSCH DRIVE JACKSONVILLE, FL 32218 PHONE # 904-757-6100 I HEREBY CERTIFY THAT THE MATERIALS USED IN THE CONSTRUCTION OF ___ PAVEMENT ___ WATER MAIN ___ CURB & GUTTER ___ SANITARY GRAVITY SYSTEM _X_ GAS MAIN COLLECTION SYSTEM ___ FORCE MAIN ___ LIFT STATION ARE IN ACCORDANCE WITH THE APPROVED PLANS AND CITY SPECIFICATIONS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. AUTHORIZED SIGNATURE:_____	I HEREBY CERTIFY THAT THE DATE: 6-13-02 ___ PAVEMENT ___ WATER MAIN ___ CURB & GUTTER ___ SANITARY GRAVITY SYSTEM _X_ GAS MAIN COLLECTION SYSTEM ___ FORCE MAIN ___ LIFT STATION ARE AT THE HORIZONTAL AND VERTICAL LOCATIONS AS SHOWN ON THESE "AS-BUILT" DRAWINGS AND MEET THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS PURSUANT TO SECTION 472.027 FLORIDA STATUTES. SIGNATURE: 67 CARRERA STREET ST. AUGUSTINE, FL 32084 (904) 829-9433 HARLO G. EVERETT, JR. FLA. REG. LAND SURVEYOR'S NO.3287

AS-BUILT

0 100 200
SCALE IN FEET

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION/ISSUE

TRAIL RIDGE LANDFILL
LANDFILL GAS SYSTEM EXPANSION

DATE	DESIGNED BY		CHECKED BY	
SEPT. 2001	DRAWN BY		APPROVED BY	
SCALE:	PROJECT NO.	SHEET NO. AB-1	REVISION NO.	

VERY SCALE 1" 0

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JACKSONVILLE\LANDFILL\AS-BUILT\9-27-02 Zio Fine\AS-BUILT_MAP.dwg, 07/01/2002 10:52:55 AM, CamJ

DEP003895

HEADER AS-BUILT ROUTE SURVEY DATA - SEE SHEET AB-1 FOR PLAN VIEW

GAS MAIN RUN "A"   8" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8823.50	10997.11	198.26	203.2	10"X8" Tee	3.73%	4.94
10+71.5	8821.88	11068.68	200.93	204.6	8" Valve	3.72%	3.57
11+13.49	8812.43	11110.06	202.49	208.3	8" Gas Main	2.57%	5.81
12+14.25	8788.78	11208.01	205.08	208.1	8" Gas Main	7.02%	3.02
12+22.23	8789.58	11215.95	205.64	208.7	4" Riser Well T-34	5.50%	3.06
13+13.65	8799.27	11306.85	210.67	213.8	8" Gas Main	7.35%	3.13
14+16.53	8808.90	11409.28	218.24	222.6	8" Gas Main	3.22%	4.36
14+66.50	8811.24	11459.20	219.85	222.9	8"x6" Tee T-33	4.10%	3.05
15+17.31	8813.48	11509.95	221.93	225.1	8" Gas Main	6.92%	3.17
16+16.44	8805.06	11608.73	228.79	231.8	High Point	-4.76%	3.01
17+11.44	8791.63	11702.78	224.27	227.9	8"x6" Tee T-32	-3.63%	3.63
18+17.80	8772.39	11807.38	220.41	223.5	8" Gas Main	-4.60%	3.09
19+19.25	8754.16	11907.17	215.74	218.9	8" Gas Main	-5.00%	3.16
19+66.39	8743.63	11953.12	213.39	216.4	8"x6" Tee T-31	-3.97%	3.01
20+18.02	8732.54	12003.55	211.34	214.6	8" Gas Main	-4.14%	3.26
21+16.09	8716.36	12100.28	207.28	210.8	8" Gas Main	-2.53%	3.52
22+02.40	8704.51	12185.77	205.09	208.7	8"x6" Tee T-30	-3.03%	3.61
23+06.15	8689.83	12288.38	201.95	205.4	8" Gas Main	-4.53%	3.45
23+32.89	8686.83	12314.96	200.74	204.1	8" Gas Main	-3.12%	3.36
23+88.89	8674.16	12370.52	198.96	202.1	8" Gas Main	-9.03%	3.14
23+99.63	8672.11	12381.06	197.99	201.1	8" Valve	-12.11%	3.11
24+13.25	8669.91	12394.50	196.34	199.5	8"x22" Tee		3.16
		Lateral for Well T-33					
0+00	8811.24	11459.20	219.85	222.9	8"x6" Tee T-33	5.23%	3.05
0+06.5	8816.22	11457.83	220.19	223.2	4" Riser Well T-33		3.01
		Lateral for Well T-32					
0+00	8791.63	11702.78	224.27	227.9	8"x6" Tee T-32	7.58%	3.63
0+04.75	8796.20	11704.07	224.63	227.7	4" Riser Well T-32		3.07
		Lateral for Well T-31					
0+00	8743.63	11953.12	213.39	216.4	8"x6" Tee T-31	23.65%	3.01
0+43.97	8786.98	11960.49	223.79	227.1	4" Riser Well T-31		3.31
		Lateral for Well T-30					
0+00	8704.51	12185.77	205.09	208.7	8"x6" Tee T-30	24.79%	3.61
0+90.23	8801.77	12191.91	227.46	231.1	4" Riser Well T-30		3.64

GAS MAIN RUN "B"   6" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	9150.10	11170.75	182.54	187.2	10"x6" Tee	4.19%	4.66
10+49.05	9106.88	11193.94	184.59	187.8	6" Gas Main	17.54%	3.21
10+82.35	9079.38	11213.00	190.43	193.7	6" Valve	16.94%	3.27
11+15.35	9055.71	11236.10	196.02	199.1	6" Tee Well T-25	13.70%	3.08
12+10.12	9026.75	11326.32	209.00	212.0	6" Gas Main	13.61%	3.00
13+12.50	9027.57	11428.71	222.94	225.0	6" Gas Main	9.85%	3.06
13+59.39	9028.40	11475.80	227.56	230.6	4" Riser Well T-26	19.69%	3.04
14+10.27	9029.46	11526.46	237.60	230.7	6" Gas Main	6.49%	3.10
14+65.60	9034.48	11581.56	241.19	244.2	6" Gas Main	5.30%	3.01
15+13.12	9032.84	11629.05	243.71	247.8	6" Gas Main	2.61%	4.09
16+01.22	9035.90	11716.79	246.01	250.1	4" Riser Well T-27	2.60%	4.09
16+11.63	9036.19	11727.51	246.28	250.3	6" Gas Main	3.71%	4.02
17+14.60	9038.43	11830.45	250.10	253.2	High Point	-2.94%	3.10
18+18.32	9036.63	11934.16	247.05	251.1	6" Gas Main	-2.60%	4.05
18+38.35	9033.99	11953.95	246.53	250.0	4" Riser Well T-28	-2.62%	3.47
19+08.84	9025.31	12023.96	244.68	248.7	6" Gas Main	-3.01%	4.02
20+10.76	9022.00	12125.83	241.61	245.6	6" Gas Main	-5.92%	3.99
20+33.96	9022.21	12149.03	240.24	246.0	6" Gas Main	-12.88%	5.76
20+97.02	9026.23	12211.87	232.12	235.3	4" Riser Well T-29	-13.82%	3.18
21+10.84	9026.63	12225.78	230.21	233.3	6" Gas Main	-21.55%	3.09
21+75.98	9028.21	12290.90	218.08	221.2	6" Gas Main	-22.78%	3.12
22+29.58	9025.97	12344.46	205.87	208.9	6" Gas Main	-7.99%	3.03
22+55.99	9025.72	12370.87	203.76	206.8	6" 45° bend	-23.22%	3.04
22+72.18	9012.79	12380.61	200.00	203.1	6" Gas Main	-13.16%	3.10
22+93.00	8992.97	12386.98	197.26	200.3	6" Gas Main	-11.52%	3.04
23+46.12	8941.86	12401.45	191.14	194.2	6" Gas Main	-7.46%	3.06
23+89.42	8900.35	12413.73	187.91	191.0	6" Valve	-8.80%	3.09
24+14.66	8876.27	12421.30	185.69	188.7	6" 45° Bend	-8.58%	3.01
24+16.99	8875.80	12423.57	185.49	188.5	6" x 22" Tee		3.01
		Lateral for Well T-25					
0+00	9055.71	11236.10	196.02	199.1	6" Tee T-25	3.44%	3.08
0+13.37	9042.24	11229.83	196.48	199.6	4" Riser Well T-25		3.12

GAS MAIN RUN "C"   6" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
9+36.57	9286.91	11411.11	195.26	198.3	6" Header Tie In	12.87%	3.04
9+42.01	9286.51	11416.54	195.96	199.0	4" Riser Well T-18U	18.50%	3.04
10+00	9282.40	11472.79	206.69	209.8	6" Gas Main	17.76%	3.11
11+00.16	9281.49	11572.95	224.47	227.6	6" Gas Main	18.60%	3.13
11+80.36	9284.17	11653.11	239.39	243.0	6" Tee Well T-19	16.56%	3.61
11+96.64	9285.41	11669.34	242.09	245.5	6" Tee Well T-19U	4.32%	3.41
12+99.95	9281.35	11772.56	246.55	251.3	6" Gas Main	3.56%	4.75
13+96.59	9291.17	11868.71	249.99	253.0	High Point	-2.95%	3.01
14+62.39	9295.52	11934.13	248.05	251.8	Riser Well T-20U	-2.92%	3.75
14+64.79	9295.67	11936.32	248.12	251.8	6" Tee Well T-20	-2.73%	3.68
14+92.65	9295.64	11964.66	247.36	251.4	6" E.F. Coupler	-3.00%	4.04
15+75.65	9291.27	12047.55	244.87	248.8	6" Gas Main	-3.00%	3.24
16+57.65	9284.30	12129.27	242.41	247.0	6" E.F. Coupler	-10.83%	3.14
16+95.13	9282.33	12166.66	238.35	241.8	6" Gas Main	-12.97%	3.45
17+21.66	9279.69	12193.06	234.90	238.1	6" Tee Well T-21U	-18.43%	3.20
17+36.50	9279.07	12207.89	232.17	235.2	6" Tee Well T-21	-17.24%	3.03
17+85.00	9277.14	12256.31	223.81	225.9	6" Gas Main	-34.82%	3.09
18+60.02	9281.00	12331.23	197.69	206.4	6" Header Tie In		8.71
		Lateral for Well T-20					
0+00	9295.67	11936.32	248.12	251.8	6" Tee Well T-20	3.67%	3.68
0+06.81	9288.96	11937.55	248.37	251.5	4" Riser Well T-20		3.13
		Lateral for Well T-21U					
0+00	9297.69	12193.06	234.90	238.1	6" Tee Well T-21U	4.10%	3.20
0+13.90	9293.55	12191.99	235.47	238.5	4" Riser Well T-21U		3.03
		Lateral for Well T-19					
0+00	9284.17	11653.11	239.39	243.0	6" Tee Well T-19	4.60%	3.61
0+06.95	9290.51	11655.95	239.71	243.0	4" Riser Well T-19		3.29
		Lateral for Well T-21					
0+00	9297.07	12207.89	232.17	235.2	6" Tee Well T-21	4.14%	3.03
0+05.07	9284.15	12207.09	232.38	235.5	4" Riser Well T-21		3.12

GAS MAIN RUN "D"   6" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	9499.83	11322.65	192.04	195.1	6" Header Tie In	25.13%	3.06
10+13.06	9502.53	11335.43	195.32	198.4	6" Tee Well T-4U	12.74%	3.08
10+83.83	9492.99	11405.55	204.34	207.5	6" Gas Main	14.67%	3.16
11+81.10	9475.73	11501.28	218.61	221.7	6" Gas Main	16.34%	3.09
12+02.55	9471.40	11522.29	222.12	225.3	6" Gas Main	15.80%	3.18
12+30.39	9466.67	11549.75	226.52	229.6	4" Riser Well T-3	26.68%	3.08
12+47.89	9463.36	11566.79	231.19	234.3	4" Riser Well T-3U	14.30%	3.11
12+82.72	9457.17	11601.18	236.17	239.2	6" Gas Main	21.32%	3.03
12+95.90	9452.12	11613.35	238.98	242.0	6" Gas Main	2.76%	3.02
13+81.54	9451.63	11699.00	241.34	247.7	6" Gas Main	4.08%	6.36
14+67.48	9459.30	11784.59	244.84	248.9	6" Tee Well T-2R	6.52%	4.06
15+21.09	9464.79	11837.92	248.34	251.4	High Point	-2.62%	3.06
15+79.62	9471.18	11896.10	246.81	249.9	6" Gas Main	-6.49%	3.09
17+49.46	9486.98	12065.20	235.78	238.8	6" Tee Well T-1	-20.49%	3.02
17+60.78	9491.22	12075.69	233.46	236.6	4" Riser Well T-1U	-30.14%	3.14
17+79.16	9494.15	12094.03	227.92	231.0	6" Gas Main	-38.31%	3.08
18+62.42	9498.45	12177.18	196.02	207.1	6" Header Tie In		11.08
		Lateral for Well T-4U					
0+00	9502.53	11335.43	195.32	198.4	6" Tee Well T-4U	3.18%	3.08
0+16.96	9516.68	11326.08	195.86	198.9	4" Riser Well T-4U		3.04
		Lateral for Well T-2R					
0+00	9459.30	11784.59	244.84	248.9	6" Tee Well T-2R	3.65%	4.06
0+37.77	9497.07	11784.85	246.22	249.3	4" Riser Well T-2R		3.08
		Lateral for Well T-1					
0+00	9486.98	12065.20	235.78	238.8	6" Tee Well T-1	3.18%	3.02
0+20.44	9505.43	12056.40	236.43	239.6	4" Riser Well T-1		3.17

GAS MAIN RUN "E"   10" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8713.66	11000.81	202.76	205.9	10" Blind Flange	-4.40%	3.14
10+93.46	8807.06	10997.25	198.65	203.4	10"x8" Tee Run F	-2.40%	4.75
11+09.91	8823.50	10997.11	198.26	203.2	10"x8" Tee Run A	-3.34%	4.94
11+41.73	8855.31	10998.21	197.19	202.1	10" Gas Main	-3.58%	4.91
12+40.47	8953.47	11008.90	193.65	199.6	10" Gas Main	-3.15%	5.95
12+90.67	9002.40	11020.11	192.07	200.2	10"x6" Tee Run G	-4.07%	8.13
13+41.24	9044.82	11047.63	190.01	198.3	10" Gas Main	-6.62%	8.29
14+09.41	9089.62	11099.01	185.50	193.7	10" Gas Main	-3.16%	8.20
15+03.24	9150.10	11170.75	182.54	187.2	10"x6" Tee Run B	-4.08%	4.66
16+34.00	9264.66	11233.80	177.20	181.2	10" Flange to Flange Connection		4.00

GAS MAIN RUN "F"   8" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8807.06	10997.25	198.65	203.4	10"x8" Tee	3.63%	4.75
10+03.03	8806.52	10994.27	198.76	203.4	8" Valve	3.07%	4.64
10+28.76	8802.25	10968.90	199.55	204.5	4" Riser Well T-35	3.16%	4.95
10+98.33	8790.77	10900.28	201.75	204.8	8" Gas Main	3.58%	3.05
11+98.81	8771.93	10801.58	205.35	208.8	8" Gas Main	9.42%	3.45
12+82.15	8770.03	10718.26	213.20	216.3	8"x6" Tee Well T-36	3.91%	3.10
12+99.27	8770.98	10701.16	213.87	216.9	High Point	-3.14%	3.03
13+98.33	8775.74	10602.22	210.76	214.9	8" Gas Main	-2.51%	4.14
15+01.92	8778.53	10498.67	208.16	211.2	8"x 6" Tee Well T-37	-2.34%	3.04
15+98.86	8744.60	10407.86	205.89	209.5	8" Gas Main	-2.55%	3.61
16+67.36	8714.19	10346.48	204.14	207.9	8" Gas Main	-2.79%	3.76
17+27.30	8688.51	10292.32	202.47	205.5	8" Gas Main	-2.90%	3.03
17+88.05	8684.19	10231.73	200.71	203.8	8" Valve	-4.82%	3.09
17+92.82	8684.04	10226.96	200.48	203.5	8" x 12" Tee		3.02
		Lateral for Well T-36					
0+00	8770.03	10718.26	213.20	216.3	8"x6" Tee Well T-36	6.09%	3.10
0+09.03	8779.85	10718.45	213.55	216.6	4" Riser Well T-36		3.05
		Lateral for Well T-37					
0+00	8778.53	10498.67	208.16	211.2	8"x6" Tee Well T-37	3.21%	3.04
0+19.32	8799.17	10497.94	208.78	211.8	4" Riser Well T-37		3.02

GAS MAIN RUN "G"   6" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	9002.40	11020.11	195.45	200.2	10" x 6" Tee	31.36%	4.75
10+40.12	9026.54	10988.28	208.03	211.8	4" Riser Well T-24	16.10%	3.77
10+90.73	9028.88	10921.54	216.18	219.4	6" Valve	9.09%	3.22
11+05.03	9028.55	10918.39	217.48	220.5	High Point	-3.36%	3.02
12+14.56	9029.60	10808.86	213.80	216.9	6" Gas Main	-2.80%	3.10
12+96.65	9025.58	10726.85	211.50	214.5	4" Riser Well T-23	-2.77%	3.00
13+13.26	9025.55	10710.24	211.04	214.1	6" Gas Main	-2.51%	3.06
14+14.24	9029.59	10609.35	208.51	211.9	6" Gas Main	-2.52%	3.39
15+14.04	9038.64	10509.96	206.00	209.5	6" Gas Main	-2.88%	3.50
15+41.44	9042.39	10482.81	205.21	208.81	6" Tee Well T-22	-2.10%	3.60
16+14.45	9073.52	10416.78	203.68	207.9	6" Gas Main	-2.31%	4.22
17+30.57	9137.76	10320.05	201.00	204.2	6" Gas Main	-3.43%	3.20
17+86.51	9167.90	10272.92	199.08	202.4	6" Gas Main	-3.06%	3.32
18+23.45	9170.21	10236.05	197.95	201.2	6" Valve	-3.03%	3.25
18+35.97	9170.17	10223.53	197.57	200.6	6" x 12" Tee		3.03
		Lateral for Well T-22					
0+00	9042.39	10482.81	205.21	208.8	6" Tee Well T-22	5.60%	3.59
0+08.22	9033.86	10481.57	205.67	209.0	4" Riser Well T-22		3.33

GAS MAIN RUN "H"   4" Condensate Drain

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8680.57	10226.79	199.04	201.1	12" x 4" Tee	-7.41%	2.06
10+01.35	8680.75	10225.45	199.14	201.4	4" 45° Bend	-7.50%	2.26
10+31.61	8710.18	10218.40	196.87	199.4	4" Valve	-8.48%	2.53
10+76.97	8754.07	10206.96	193.02	195.1	4" Gas Main	-7.56%	2.08
11+33.96	8809.41	10193.36	188.71	190.7	4"x 6" Tee		1.99

GAS MAIN RUN "I"   6" Header   Remote Well 8

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8810.15	10236.40	202.95	205.6	RW-8	-33.07%	2.65
10+43.05	8809.41	10193.36	188.71	191.1	6" x 4" Tee	-33.11%	2.39
10+53.89	8809.55	10182.52	185.12	187.3	6" Gas Main Terrace Crossing	-11.45%	2.18
10+75.99	8810.01	10160.43	182.59	185.4	6" Gas Main	-28.76%	2.81
10+97.44	8810.44	10138.98	176.42	179.0	6" Gas Main	-32.40%	2.58
11+29.85	8810.90	10106.57	165.92	168.3	6" Gas Main Terrace Crossing	-14.52%	2.38
11+52.85	8810.80	10083.57	162.58	164.7	6" Gas Main	-29.68%	2.12
11+63.80	8810.40	10072.63	159.33	161.4	6" Gas Main	-66.30%	2.07
11+65.58	8810.42	10070.84	158.15	160.9	Tie In To Leachate Clean Out Riser 8"x6" Electro Fusion Coupler		2.75

GAS MAIN RUN "J"   12" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8678.36	10226.28	199.79	202.6	12" Blind Flange	4.42%	2.81
10.02.26	8680.57	10226.79	199.89	202.8	12" x 4" Tee Run "H"	4.31%	2.91
10+05.74	8684.04	10226.96	200.04	203.0	12" x 8" Tee Run "F"	3.34%	2.96
10+69.28	8747.25	10233.42	202.16	204.9	12" Gas Main	3.56%	2.74
11+25.22	8802.95	10238.61	204.15	206.6	4" Riser Well W-27	5.05%	2.45
11+32.55	8810.23	10239.46	204.52	206.5	4" Riser RW-8	4.99%	1.98
11+74.00	8851.30	10245.08	206.59	209.3	12" Gas Main	3.00%	2.71
11+90.11	8867.33	10246.75	207.07	209.6	12" Gas Main High Point	-3.38%	2.53
12+25.30	8902.26	10242.51	205.88	207.9	12" Gas Main	-3.05%	2.02
12+92.17	8968.80	10235.89	203.84	206.1	12" Gas Main	-3.02%	2.26
13+59.38	9035.61	10228.62	201.81	204.3	12"x 6" Tee Well W-26	-3.00%	2.49
14+14.32	9090.42	10224.79	200.16	202.5	12" Gas Main	-2.99%	2.34
14+51.07	9127.17	10224.63	199.06	201.6	12" Gas Main	-3.46	2.54
14+94.09	9170.17	10223.53	197.57	200.0	12" x 6" Tee Run "G"	-3.68	2.43
15+28.89	9204.94	10221.86	196.29	199.1	12" Flange Connection		2.81
		Lateral for Well W-26					
0+00	9035.61	10228.62	201.81	204.3	12"x 6" Tee Well W-26	3.52%	2.49
0+09.94	9036.16	10238.54	202.16	204.9	4" Riser Well W-26		2.74

GAS MAIN RUN "K"   22" Header

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8667.66	12393.91	196.54	198.1	22" Flange	-8.58%	1.56
10+02.33	8669.91	12394.50	196.34	197.9	22"x8" Tee Run "A"	-5.29%	1.56
10+36.76	8703.87	12400.15	194.52	196.2	4" Riser Well W-37	-4.37%	1.68
10+91.44	8758.03	12407.74	192.13	193.9	22" Gas Main	-3.76%	1.86
11+48.32	8814.53	12414.29	189.99	191.6	22" Gas Main	-5.57%	1.61
12+10.30	8875.80	12423.57	186.54	188.1	22" x 6" Tee Run "B"	-5.67%	1.56
12+13.12	8878.59	12424.05	186.38	188.0	4" Riser RW-7	-5.51%	1.62
12+15.66	8881.07	12424.55	186.24	188.0	22" 80° Bend	-4.17%	1.76
12+27.42	8881.72	12436.20	185.75	187.4	22" 90° Bend	-2.92%	1.65
12+46.59	8900.66	12439.28	185.19	187.0	22" Flange Connection		1.81

GAS MAIN RUN "L"   6" Header   Remote Well 7

Station	Northing	Easting	Top Pipe	Ground	Description	Slope	Depth
10+00	8878.02	12428.74	183.92	185.6	RW-7	-11.90%	1.68
10+16.89	8876.39	12445.56	181.91	183.5	6" Gas Main	-32.76%	1.59
10+41.19	8875.57	12469.84	173.95	175.8	6" Gas Main	-21.94%	1.85
10+76.93	8874.50	12505.56	166.11	167.7	6" Gas Main	-23.03%	1.59
11+04.03	8874.06	12532.67	159.87	161.4	6" Gas Main	-33.11%	1.53
11+22.33	8874.41	12550.96	153.81	155.7	6" Gas Main	-25.54%	1.89
11+42.57	8875.72	12571.16	148.64	150.4	6" Gas Main	-11.51%	1.76
11+56.20	8876.24	12584.78	147.07	148.6	6" 45° Bend	-16.15%	1.53
11+84.38	8853.64	12601.61	142.52	144.4	6" Gas Main	-12.60%	1.88
12+17.00	8825.08	12617.36	138.44	140.2	6" Gas Main	-23.99%	1.79
12+36.63	8809.72	12629.59	133.70	135.8	Tie In To Leachate Clean Out Riser 8"x6" Electro Fusion Coupler		2.10

AS-BUILT WELL SCHEDULE

WELL ID	Northing (Local Grid Coordinates)	Easting (Local Grid Coordinates)	Ground Elev.
T-1-U	9493.84	12073.04	236.2
T-2	ABANDONED		N/A
T-2-R	9501.72	11784.37	245.1
T-3-U	9468.25	11568.58	233.3
T-4-U	9519.28	11326.63	196.8
T-18-U	9286.91	11411.11	197.7
T-19-U	9296.58	11670.80	246.1
T-20-U	9286.33	11937.41	251.5
T-21-U	9300.28	12192.36	238.1
T-22	9028.78	10479.83	208.8
T-23	9021.04	10727.19	214.0
T-24	9029.24	10989.24	211.2
T-25	9040.71	11227.71	199.6
T-26	9027.43	11476.11	230.3
T-27	9036.42	11717.02	250.1
T-28	9034.42	11954.25	250.0
T-29	9032.05	12211.79	235.3
T-30	8801.77	12191.91	231.1
T-31	8792.43	11961.57	227.1
T-32	8800.01	11704.84	227.1
T-33	8821.09	11458.01	223.1
T-34	8795.15	11216.50	206.8
T-35	8807.01	10968.05	201.7
T-36A	8784.47	10718.74	216.3
T-37	8803.16	10497.35	210.9
W-26	9036.42	10242.48	207.5
W-27	8803.32	10241.06	204.9
W-37	8703.24	12405.85	194.0

AS-BUILT

CONTRACTOR'S STATEMENT

DATE:
CO. NAME: R.B. BAKER CONSTRUCTION
ADRESS: 9235 BUSCH DRIVE
JACKSONVILLE, FL. 32218
PHONE #: 904-757-6100

I HEREBY CERTIFY THAT THE MATERIALS USED IN THE CONSTRUCTION OF

___ PAVEMENT   ___ WATER MAIN
___ CURB & GUTTER   ___ SANITARY GRAVITY SYSTEM
_X_ GAS MAIN COLLECTION SYSTEM   ___ FORCE MAIN
___ LIFT STATION

ARE IN ACCORDANCE WITH THE APPROVED PLANS AND CITY SPECIFICATIONS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

AUTHORIZED SIGNATURE: ______

SURVEYOR'S STATEMENT

I HEREBY CERTIFY THAT THE   DATE: 6-18-02

___ PAVEMENT   ___ WATER MAIN
___ CURB & GUTTER   ___ SANITARY GRAVITY SYSTEM
_X_ GAS MAIN COLLECTION SYSTEM   ___ FORCE MAIN
___ LIFT STATION

ARE AT THE HORIZONTAL AND VERTICAL LOCATIONS AS SHOWN ON THESE "AS-BUILT" DRAWINGS AND MEET THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

SIGNATURE: [signature]
HARLO G. EVERETT, JR.
FLA. REG. LAND SURVEYOR'S NO.3287

67 CARRERA STREET
ST. AUGUSTINE, FL. 32084
(904) 829-9433

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION/ISSUE

TRAIL RIDGE LANDFILLE
LANDFILLE GAS SYSTEM EXPANSION

DATE	DESIGNED BY		CHECKED BY	
	DRAWN BY		APPROVED BY	
SCALE:	PROJECT NO.	SHEET NO. AB-2	REVISION NO.	

DRAWING NUMBER | OFFICE | X-REF | IMAGE

VERIFY SCALE 0 ___ 1"

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E. England, P.E., CEO
Douglas C. Miller, P.E., President
N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

July 31, 2002

Ms. Mary C. Nogas, P.E.
Solid Waste Section
Department of Environmental Protection
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256

Reference: Trail Ridge Landfill
Phase II Landfill Gas Management System
ET&M No. E00-117-04

Dear Ms. Nogas:

On behalf of Trail Ridge Landfill, Inc., we hereby provide the Certification of Construction Completion for the Trail Ridge Landfill, Phase II Landfill Gas Management System. The as-built survey (as prepared by Harlow G. Everett, Jr.) is included as part of this certification.

Should you have any questions regarding this certification, please do not hesitate to give me a call.

Sincerely,

ENGLAND, THIMS & MILLER, INC.

Juanitta Bader Clem, P.E.
Vice President

Attachment

cc: Richard L. Robinson, Regulatory and Environmental Services Department
Greg Mathes, Trail Ridge Landfill, Inc.
Chris Pearson, City of Jacksonville

14775 ST. AUGUSTINE RD. • JACKSONVILLE, FL 32258 • TEL: (904) 642-8990 • FAX: (904) 646-9485

England-Thims & Miller, Inc.
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Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

July 31, 2002

Mr. Richard L. Robinson, P.E.
Air Pollution Permitting Section
Regulatory and Environmental Services Department
City Hall - St. James Building
117 West Duval Street, Suite 225
Jacksonville, Florida

Reference: Trail Ridge Landfill
Phase II Landfill Gas Management System
ET&M No. E00-117-04

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Sincerely,

ENGLAND, THIMS & MILLER, INC.

Juanitta Bader Clem, P.E.
Vice President

Attachment

cc: Mary Nogas, Department of Environmental Protection
Greg Mathes, Trail Ridge Landfill, Inc.
Chris Pearson, City of Jacksonville

14775 ST. AUGUSTINE RD. • JACKSONVILLE, FL 32258 • TEL: (904) 642-8990 • FAX: (904) 646-9485

Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994
DEP Application No. _____ (Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: 0013493-002-SC County: Duval

Name of Project: Trail Ridge Landfill Phase II - Landfill Gas Management System

Name of Owner: City of Jacksonville, Trail Ridge Landfill, Inc. (Operator)

Name of Engineer: Juanitta Bader Clem, P.E.

Type of Project: Phase II - Gas Management System including Permanent Wells W26, W27 and W37 and Remote Wells RW-7 and RW-8.

Cost: Estimate $_____ Actual $ 466,500

Site Design: Quantity: 3,500 ton/day Site Acreage: 153 Acres

Deviations from Plans and Application Approved by DEP: See attached.

Address and Telephone No. of Site: 5110 U.S. Highway 301, Baldwin, Florida 32234
Telephone Number: (904) 289-9100

Name(s) of Site Supervisor: Greg Mathes

Date Site inspection is requested: As soon as possible.

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction England, Thims & Miller, Inc. relied upon the information and certifications provided by EMCON/OWT and National Piping.

Permit No.: 0013493-002-SC Dated: November 25, 1997

Date: 7/31/02 Juanitta Bader Clem
Signature of Professional Engineer

#43245

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

REGfiles: 10/1998

TRAIL RIDGE LANDFILL
PHASE II LANDFILL GAS MANAGEMENT SYSTEM

DEVIATIONS FROM PLANS AND SPECIFICATIONS

1. An alternate material in lieu of the specified FDOT No. 3 coarse aggregate was used to backfill Gas Wells W-26 and W-27. As explained in the attached December 3, 2001 letter to the Department, the modification does not change the design intent of the aggregate.

2. Well location, well depths and header location were adjusted due to existing field conditions. Please see the As-Built drawings for actual locations.

EMCON/OWT Solid Waste Services
999 Remington Boulevard, Suite A
Bolingbrook, IL 60440
Phone: (630) 771-9200
Fax: (630) 771-9250

December 3, 2001
Project 829385

Ms. Mary C. Nogas, P.E.
Solid Waste Section
Department of Environmental Protection
7825 Baymeadows Way, Suite B-200
Jacksonville, FL 322565-7590

Re: Trail Ridge Landfill
Landfill Gas System Expansion

Dear Ms. Nogas:

On behalf of Trail Ridge Landfill Inc. EMCON/OWT Solid Waste Services (EMCON) respectfully requests permission to use an alternate backfill material for four (4) gas extraction wells (W-26, W-27, T-22 and T-37) for the ongoing construction of the landfill gas system expansion. The Incremental Closure Quality Assurance/Quality Control Plan and the Project Specifications require FDOT No. 3 Course Aggregate for the backfill material for the gas wells.

The gradation test result exceeds the allowable percentage of material passing a 1-inch sieve (approximately 32% actual vs. 0% to 15% allowed per FDOT No. 3). However, the percentage of finer material passing a 0.5-inch sieve is well within specification requirements (approximately 3% actual vs. 0% to 5% allowed).

The material was utilized to backfill the perforated portion of the landfill gas extraction well casings. The purpose of the stone backfill is to allow the flow of landfill gas into the well casings, while providing an isolation or "filter" medium between the well casing and the waste mass. Considering the perforations in the well casing consist of vertical slots approximately 0.375 inches wide, the alternate material gradation should perform in a manner consistent with the FDOT No. 3 course aggregate. As the design engineer for this portion of the landfill gas extraction system, I respectfully request that this material be approved for these four (4) wells as an alternate to the FDOT No. 3 course aggregate.

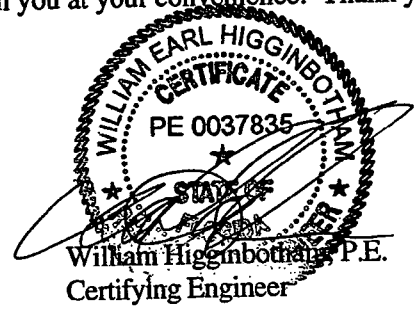
Please contact my office (630-771-9213) with any questions you may have regarding this request. I would be pleased to discuss this project with you at your convenience. Thank you.

Sincerely,

EMCON

Thomas Bilgri by T.D.

Thomas A. Bilgri, P.E.
Manager – LFG Engineering Services



William Higginbotham, P.E.
Certifying Engineer

cc: Greg Mathes, Trail Ridge Landfill, Inc.
Juanitta Clem, England, Thims & Miller, Inc.

TABLE OF CONTENTS

TRAIL RIDGE LANDFILL
PHASE II – LANDFILL GAS MANAGEMENT SYSTEM
CERTIFICATION DOCUMENTATION

Anita Boden Cox
7/31/00

SECTION I

GAS MANAGEMENT SYSTEM

GAS MANAGEMENT SYSTEM

On March 12, 1997, an initial Title V Permit Application was submitted to the City of Jacksonville's Regulatory and Environmental Services Department's Air and Water Quality Division. On October 21, 1998, Proposed Title V Air Operation Permit No. 0310358-002-AV was issued to Trail Ridge Landfill, Inc., for the Non-Methane Organic Compound Control Device (gas collection and control system). Construction and operation of the gas collection and control system were also authorized under the Florida Department of Environmental Protection Permit No. 0013493-002-SC, issued to Trail Ridge Landfill, Inc., on November 25, 1997.

Construction of Phase I of the landfill gas management system began on September 8, 1998 and was completed on December 31, 1998. Phase I included, but was not limited to, installation of five (5) permanent gas extraction wells, 21 temporary gas extraction wells, a 3,000-gallon condensate tank pump station, a blower and flare station, associated piping and flow control system. Initial start-up of the gas management system was conducted on December 18, 1998.

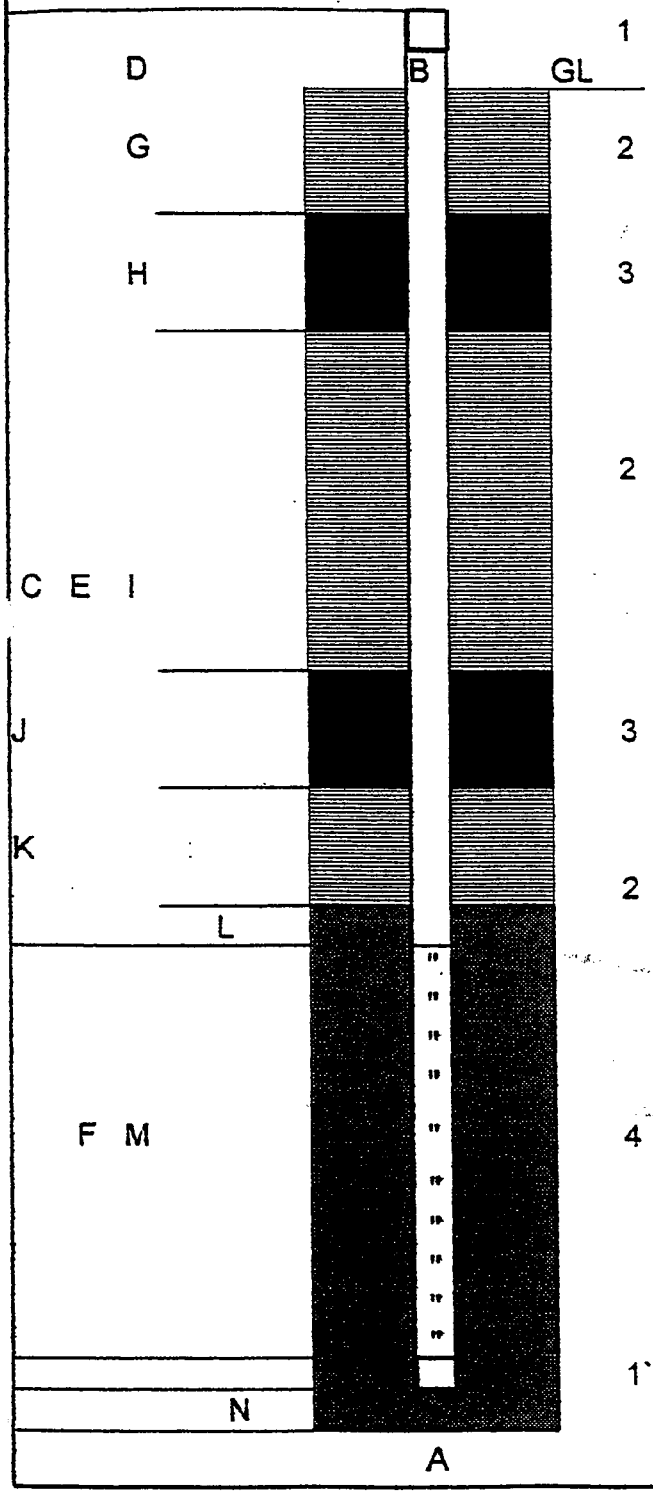
Construction of Phase II of the landfill gas management system began November 12, 2001 and was completed on May 24, 2002. Phase II includes, but is not limited to, installation of three (3) permanent gas extraction wells, 24 temporary gas extraction wells and associated piping and flow control system.

A. WELL CONSTRUCTION LOGS

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	W-26
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	11-28-01
Drill Rig Type/Number:	Date Finish:	11-28-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	8"
C - Bore Depth	42'
D - Solid Pipe Above Ground	4.5'
E - Solid Pipe Below Ground	15'
F - Slotted Pipe	27'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	9.5-600E
J - Bentonite Seal	11.5-9.5
K - Soil Backfill 13.5-11.5	~~13.5-10.5~~
L - Gravel Pack Above Screen	14-12.5
M - Gravel Pack	41-14
N - Gravel Pack Base	42-41

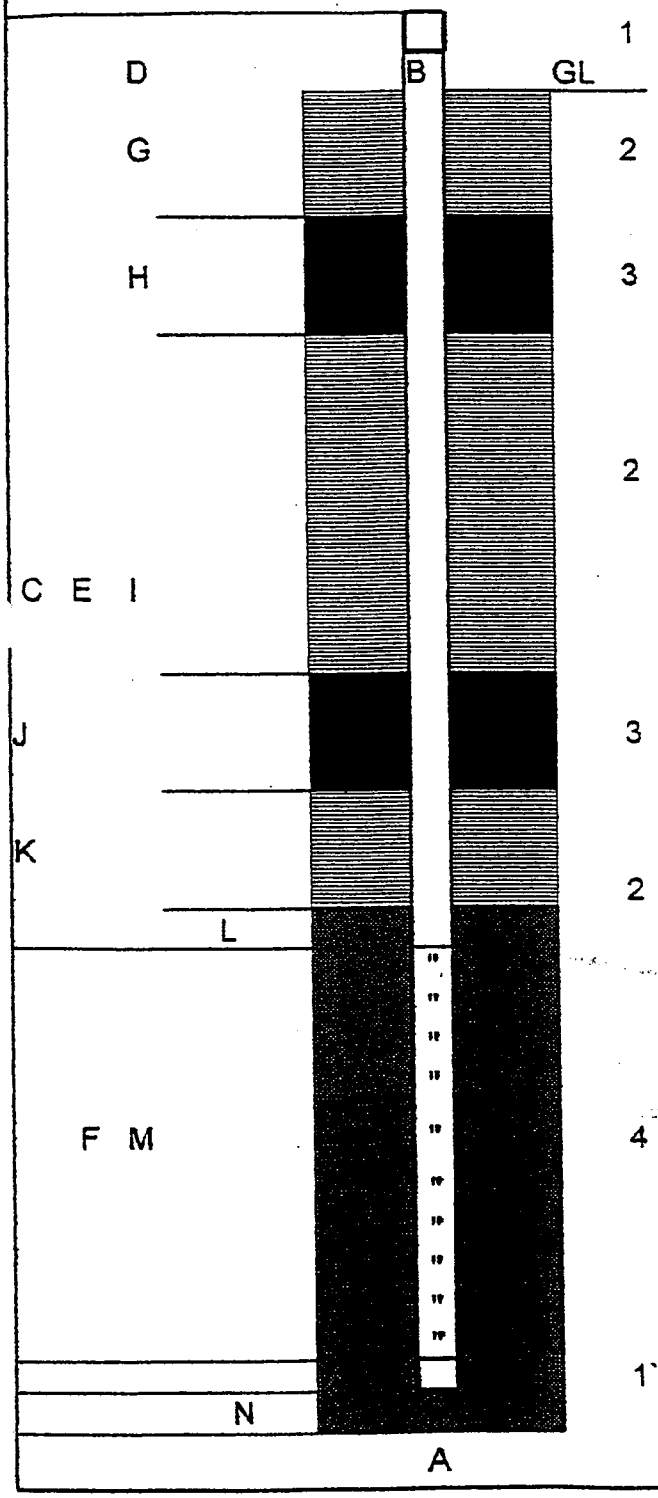
Remarks:

Ken Hagaf

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	W-27
Contractor: J.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPE N/A	Date Start:	11-27-01
Drill Rig Type/Number:	Date Finish:	11-27-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BRUCE DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	30"
B - Pipe Size	8"
C - Bore Depth	44.5
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	15'
F - Slotted Pipe	29.5
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	7.5-Grade
J - Bentonite Seal	9.5-7.5
K - Soil Backfill	11.5-9.5
L - Gravel Pack Above Screen	13.5-11.5
M - Gravel Pack	43.5-13.5
N - Gravel Pack Base	44.5-43.5

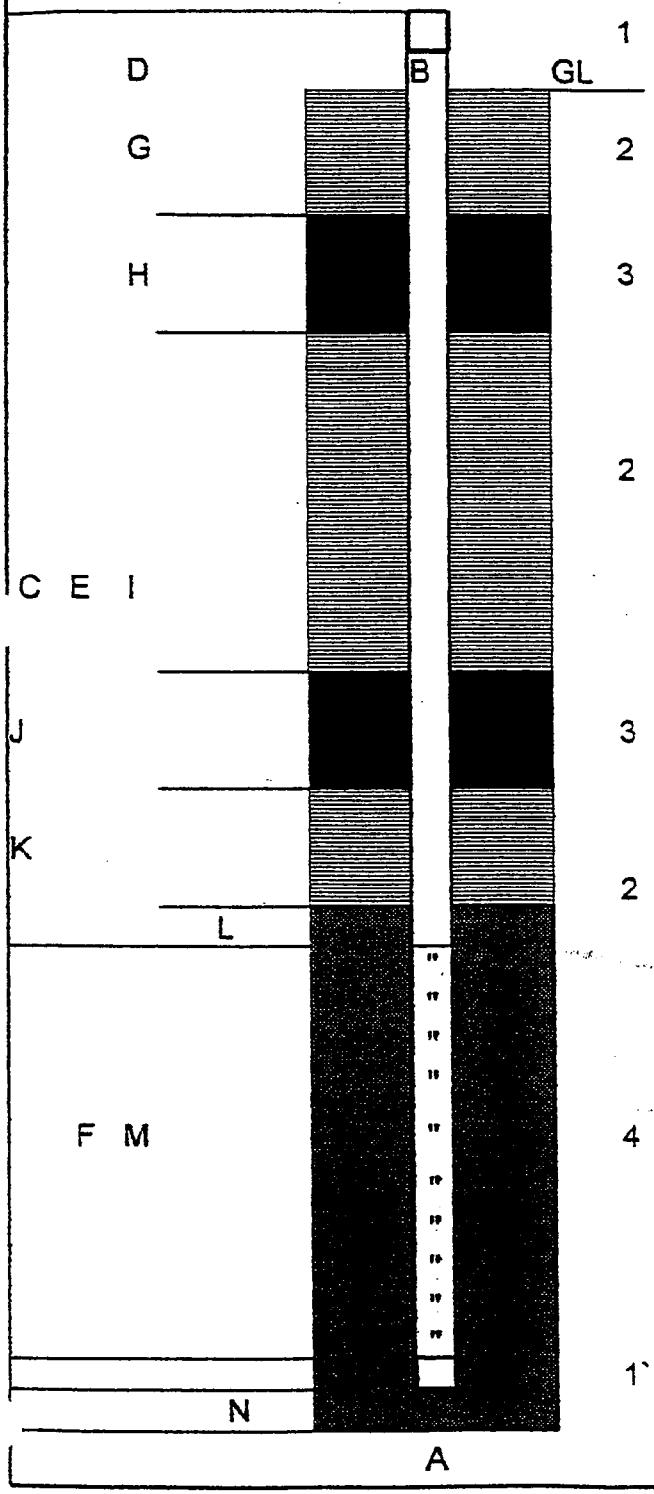
Remarks:

Ken Hagopian

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	W-37
Contractor: J.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-13-01
Drill Rig Type/Number:	Date Finish:	12-13-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	8"
C - Bore Depth	45'
D - Solid Pipe Above Ground	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	25'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-6
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	44-19
N - Gravel Pack Base	45-44

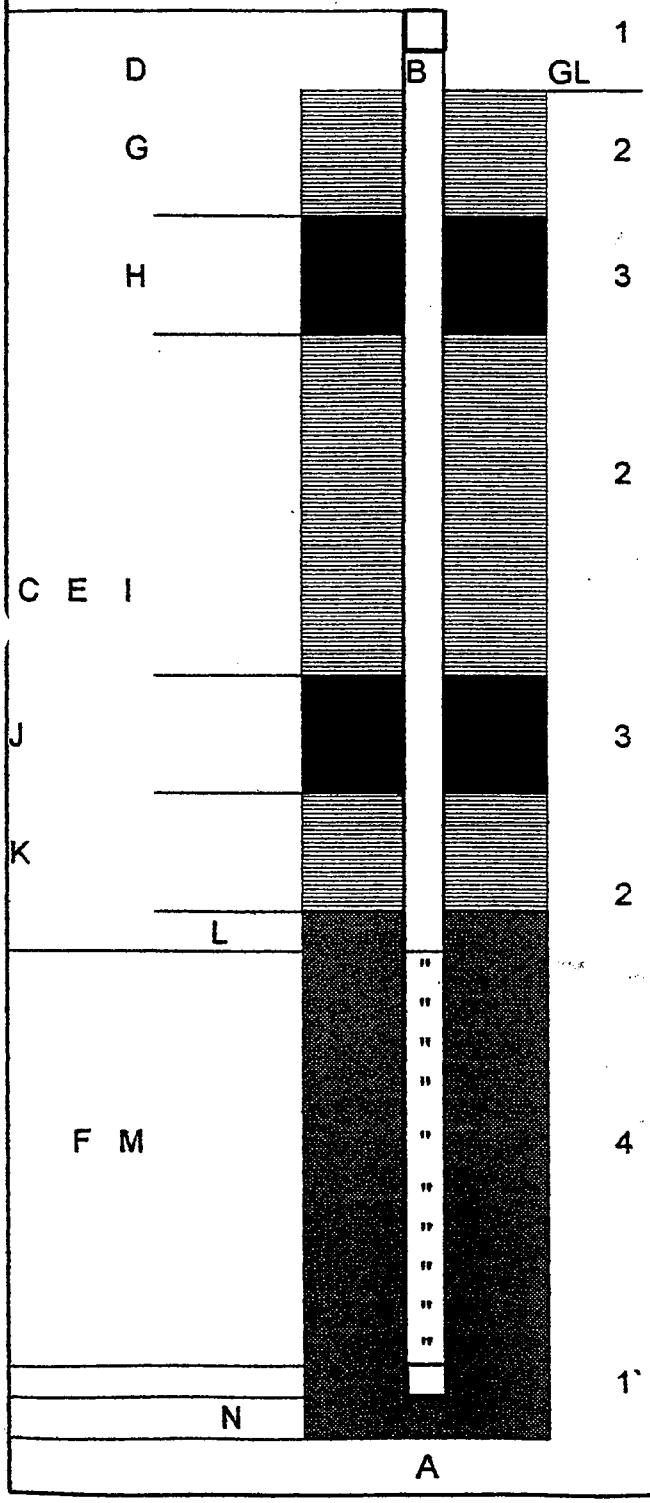
Remarks:

Ken Hagopian

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-2 R
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-9-01
Drill Rig Type/Number:	Date Finish:	12-10-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	80'
D - Solid Pipe Above Ground WILL BE	4'.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	60'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5' GRADE
J - Bentonite Seal	15.5'-13.5'
K - Soil Backfill	17.5-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	TM'-19'
N - Gravel Pack Base	80'-79'

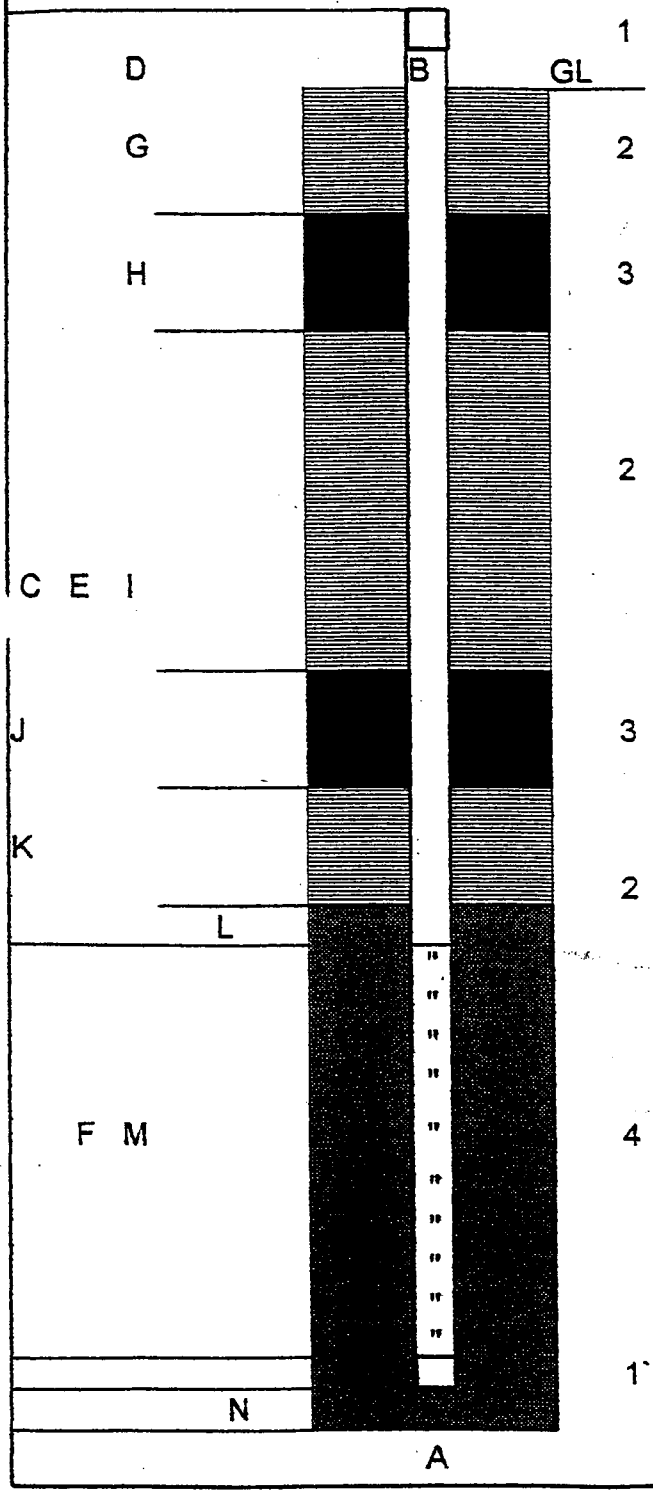
Remarks: WELL MOVED APPROX 10' SOUTH OUT OF TERRACE SWALE FOR MAINT. PURPOSES

Ken Hagofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-30
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-7-01
Drill Rig Type/Number:	Date Finish:	12-7-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	43'
D - Solid Pipe Above Ground	4'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	23'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-Grade
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	42-19
N - Gravel Pack Base	43-42

Remarks:

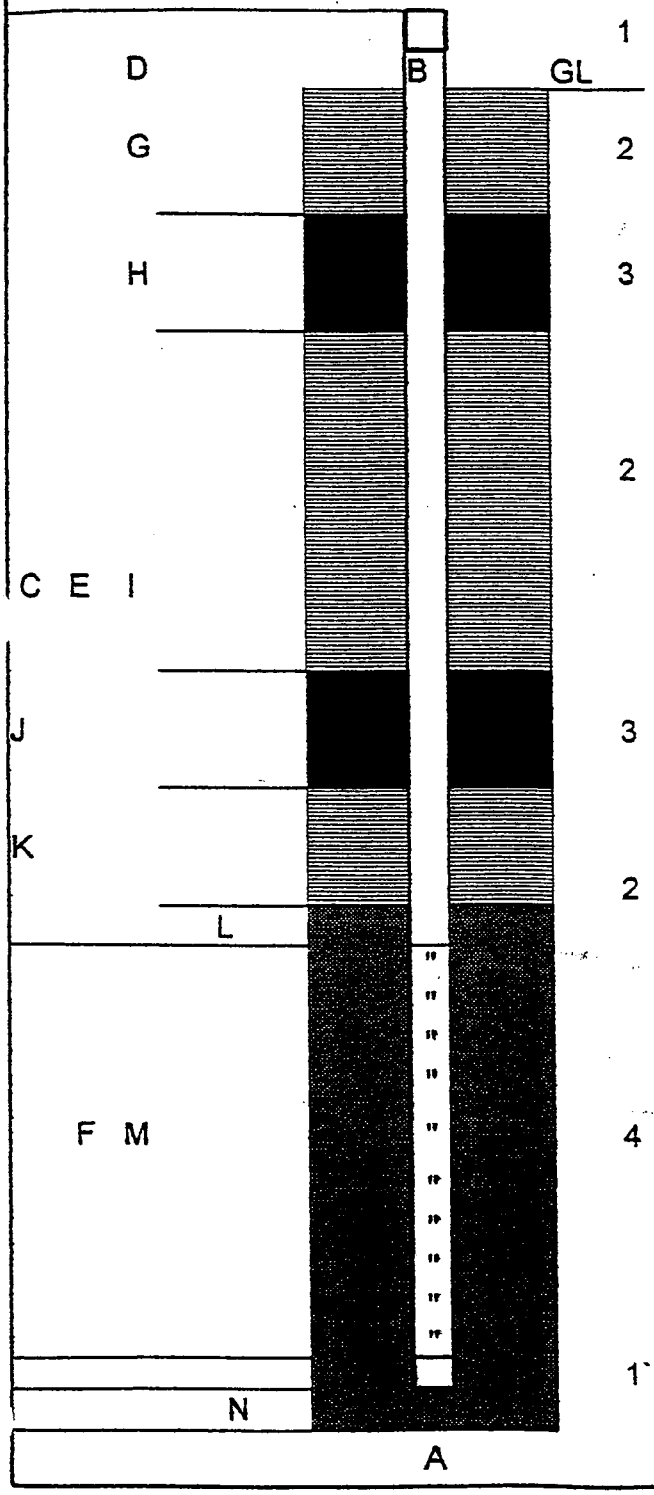
HIT OBSTRUCTION AT 43'

Ken Hoyofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-40
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-6-01
Drill Rig Type/Number:	Date Finish:	12-6-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	35'
D - Solid Pipe Above Ground	4'
E - Solid Pipe Below Ground	15'
F - Slotted Pipe	20'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	9.5-GRADE
J - Bentonite Seal	11.5-9.5
K - Soil Backfill	13.5-11.5
L - Gravel Pack Above Screen	14-13.5
M - Gravel Pack	34-14'
N - Gravel Pack Base	35-34

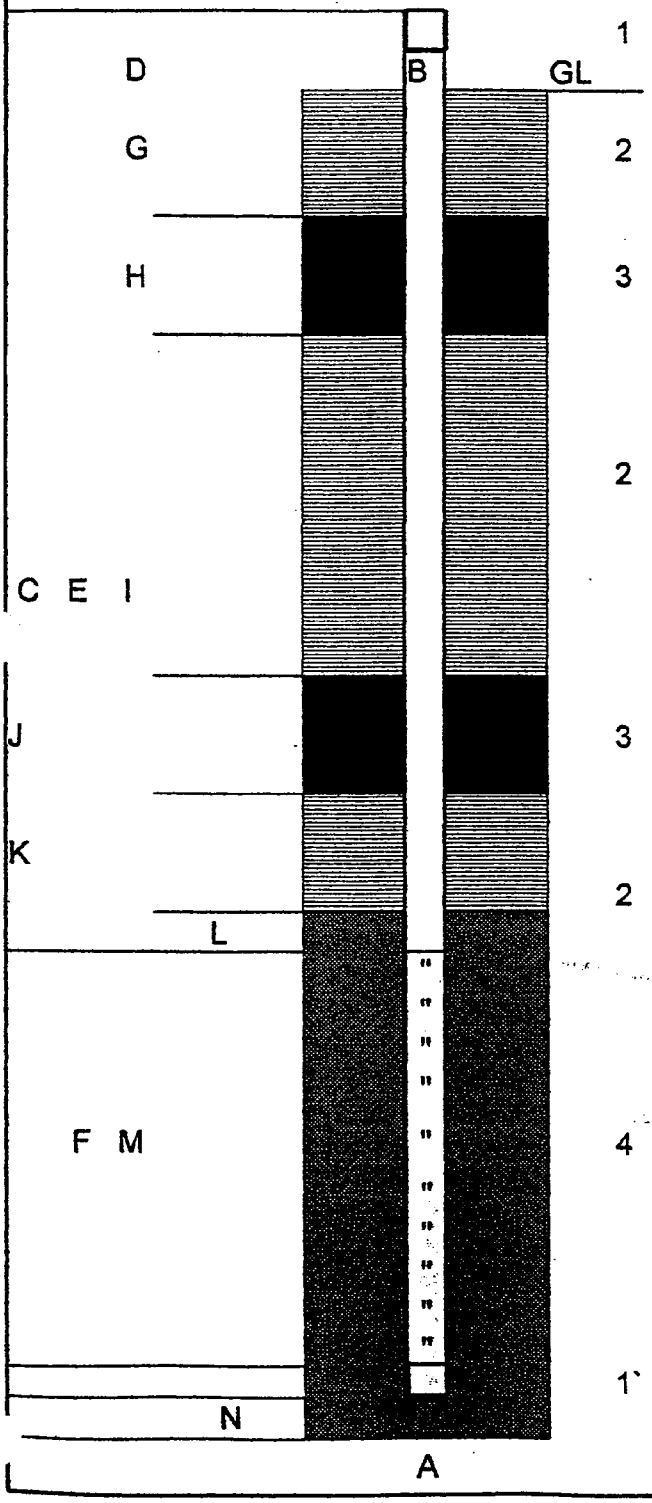
Remarks:

Ken Adazofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-10
Contractor: R.B. BALES	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-9-01
Drill Rig Type/Number:	Date Finish:	12-9-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	55'
D - Solid Pipe Above Ground will be	4'.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	35'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5'-GRADE
J - Bentonite Seal	15.5-13.5'
K - Soil Backfill	17.5'-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	54'-19'
N - Gravel Pack Base	55'-54'

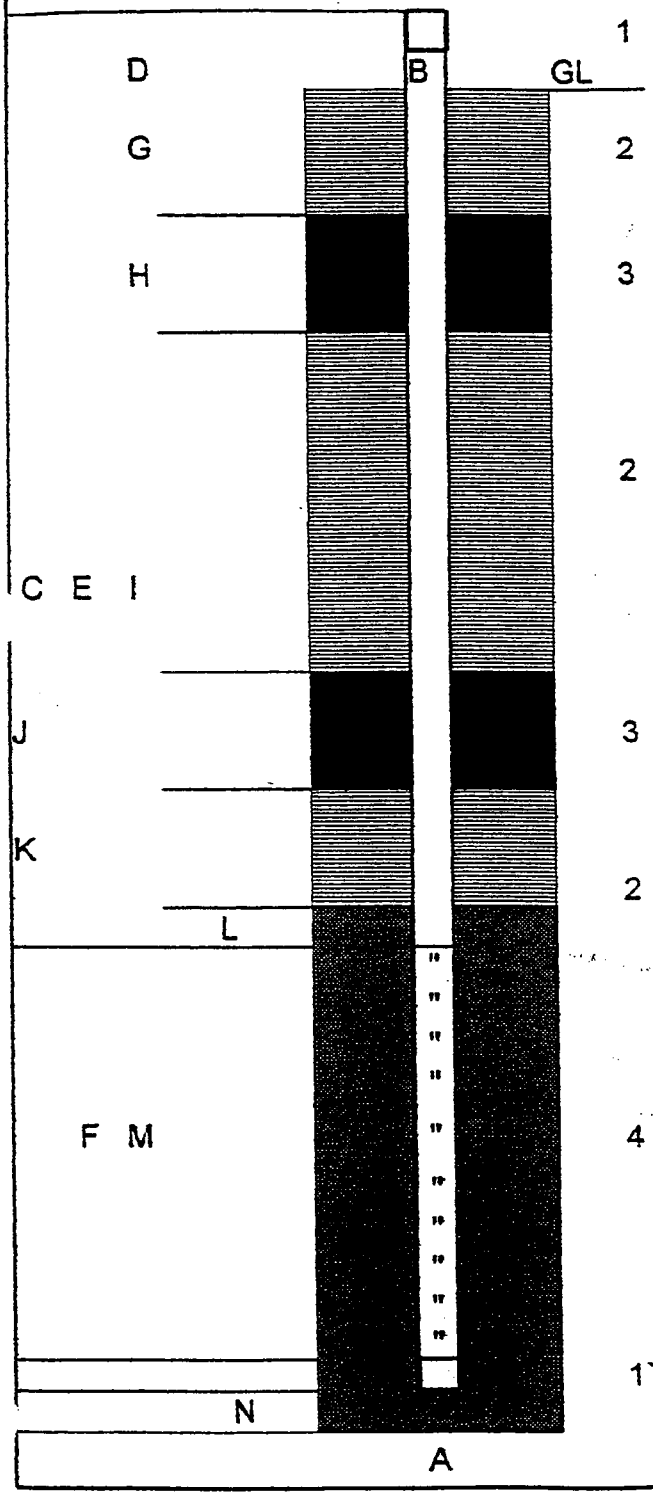
Remarks:

Ken Hagofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-18U
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-6-01
Drill Rig Type/Number:	Date Finish:	12-6-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	35'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	15'
F - Slotted Pipe	20'
G - Cover Depth Over Seal	
H - Bentonite Seal	NA
I - Soil Backfill	8.5-6 EDGE
J - Bentonite Seal	10.5-8.5
K - Soil Backfill	12.5-10.5
L - Gravel Pack Above Screen	14-12.5
M - Gravel Pack	34-N
N - Gravel Pack Base	35-34

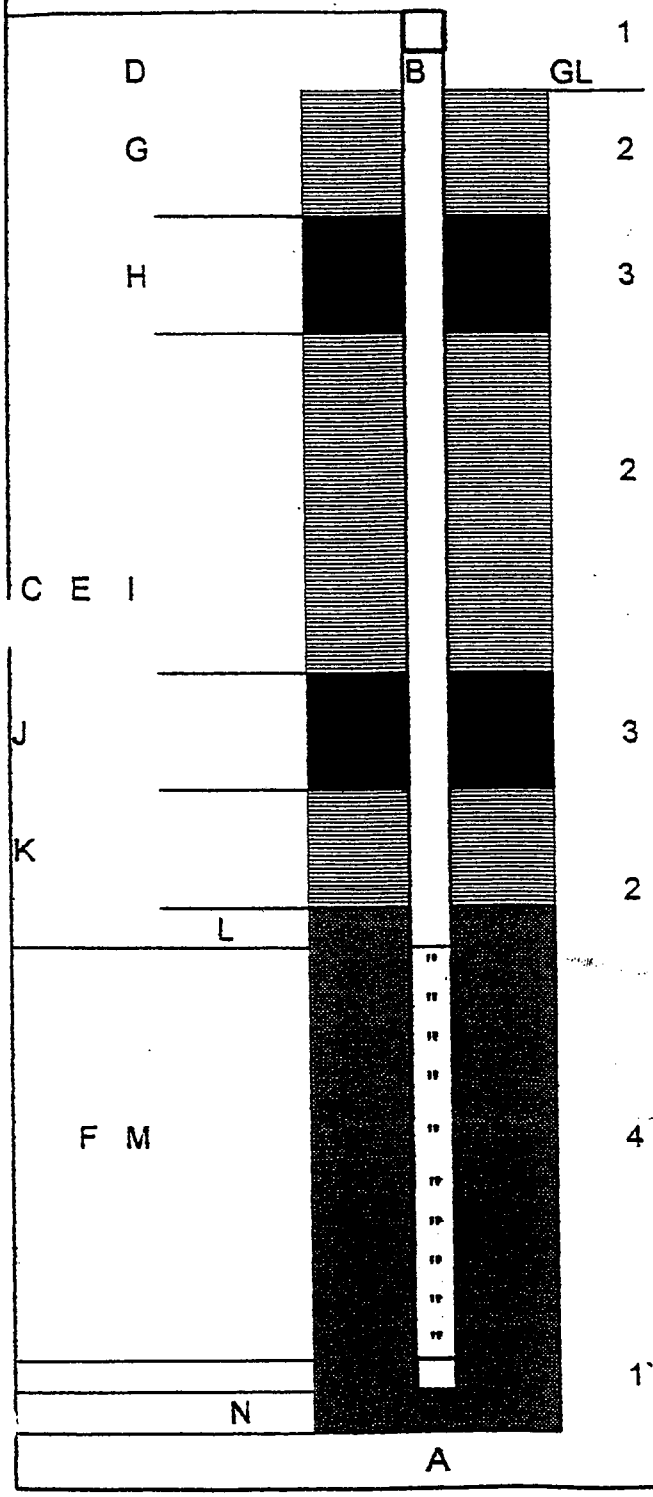
Remarks:

Ken Kozofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	F-18U
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-6-01
Drill Rig Type/Number:	Date Finish:	12-6-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	55'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	35'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-6 BASE
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	54-19
N - Gravel Pack Base	55'-54

Remarks:

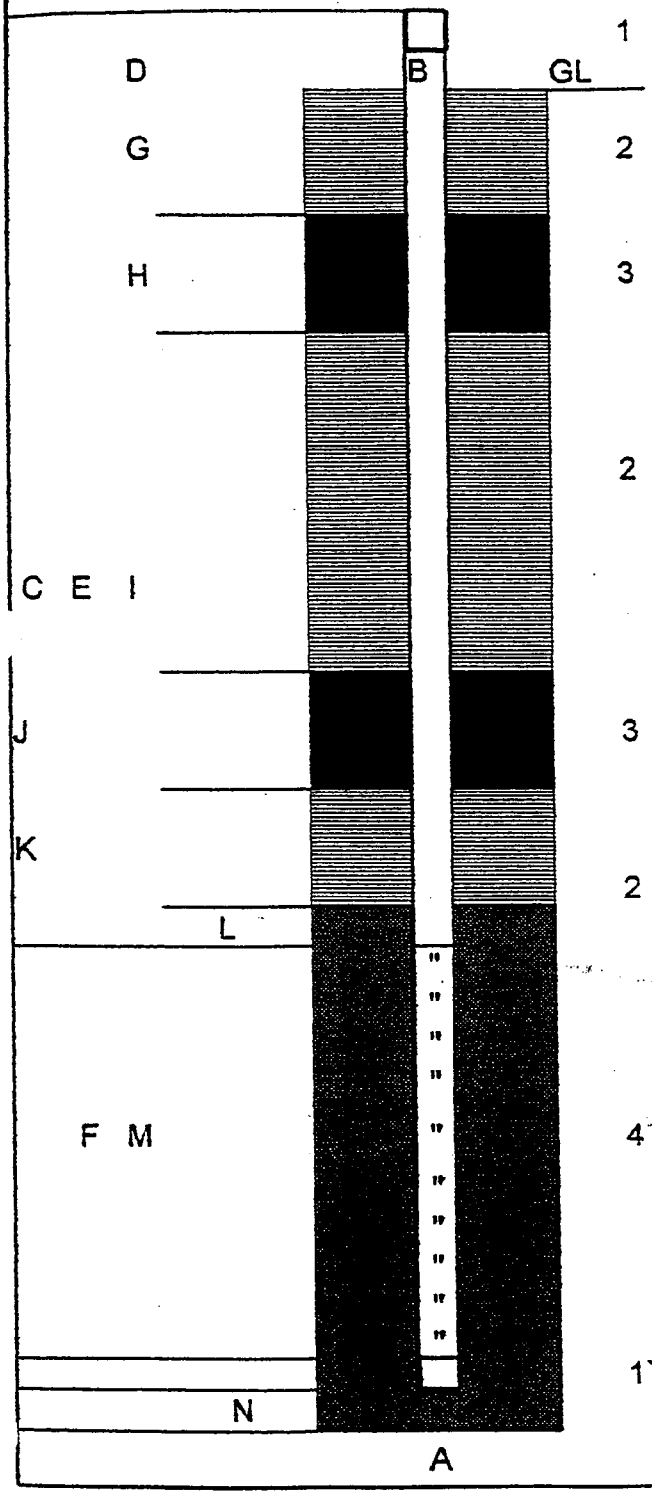
HIT OBSTRUCTION @ 55'

Ken Hayofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-20U
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-6-01
Drill Rig Type/Number:	Date Finish:	12-7-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	73'
D - Solid Pipe Above Ground	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	53'
G - Cover Depth Over Seal	
H - Bentonite Seal	NA
I - Soil Backfill	13.5-6@ 0C
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	72-19
N - Gravel Pack Base	73-72

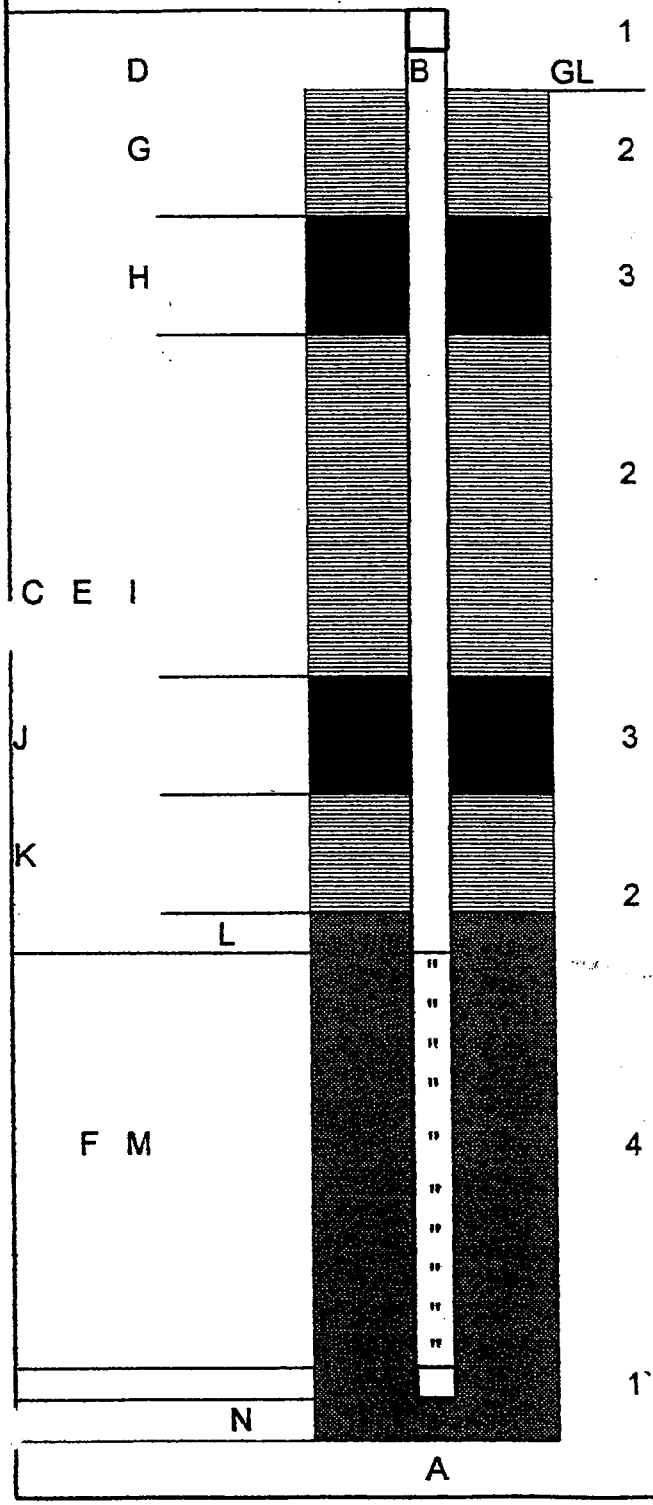
Remarks:

Ken Wagofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-210
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPE N/A	Date Start:	12-8-01
Drill Rig Type/Number:	Date Finish:	12-8-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36" ✓
B - Pipe Size	6" ✓
C - Bore Depth	57' ✓
D - Solid Pipe Above Ground WILL BE	4'5'
E - Solid Pipe Below Ground	20' ✓
F - Slotted Pipe	37' ✓
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5 - GRADE ✓
J - Bentonite Seal	15.5 - 13.5' ✓
K - Soil Backfill	17.5' - 15.5' ✓
L - Gravel Pack Above Screen	19' - 17.5' ✓
M - Gravel Pack	56' - 19' ✓
N - Gravel Pack Base	57' - 56' ✓

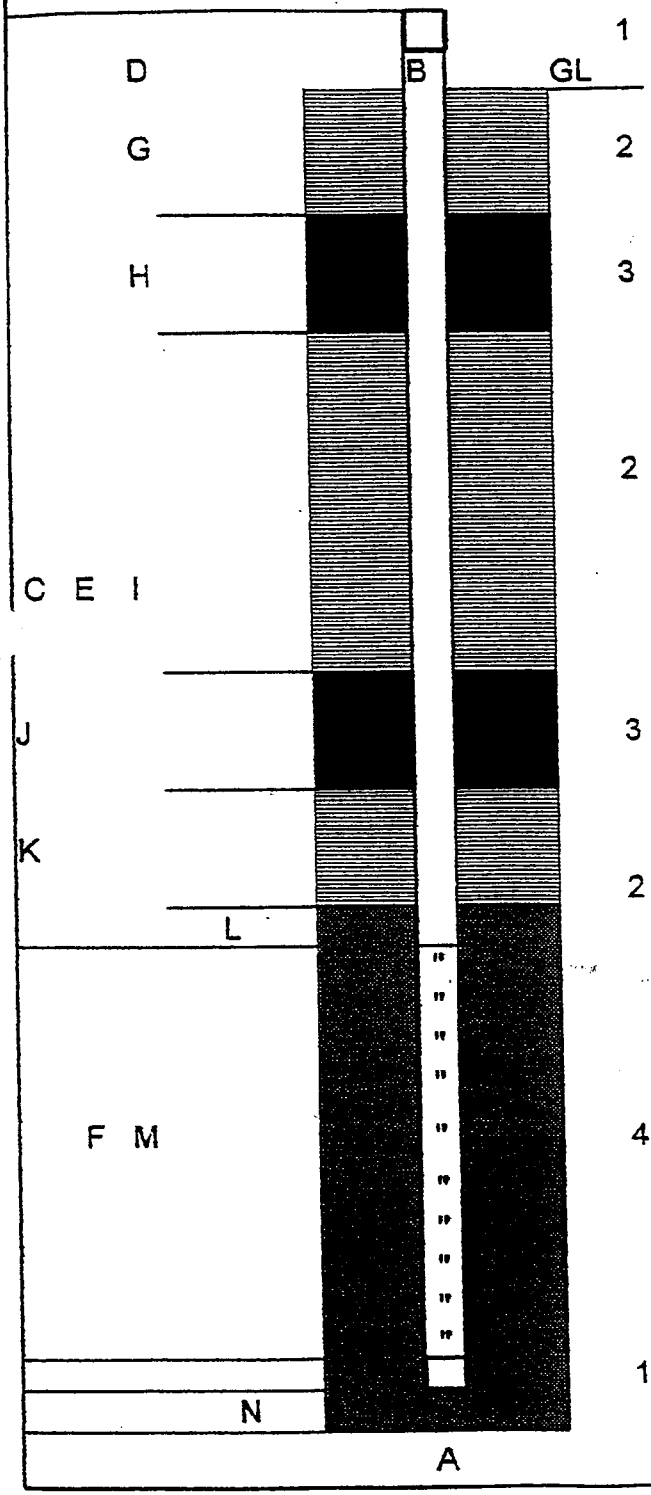
Remarks:

Ken Hayafsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-22
Contractor: J.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	11-28-01
Drill Rig Type/Number:	Date Finish:	11-28-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	48'
D - Solid Pipe Above Ground	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	28'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5 GROUT
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	47-19'
N - Gravel Pack Base	48-47

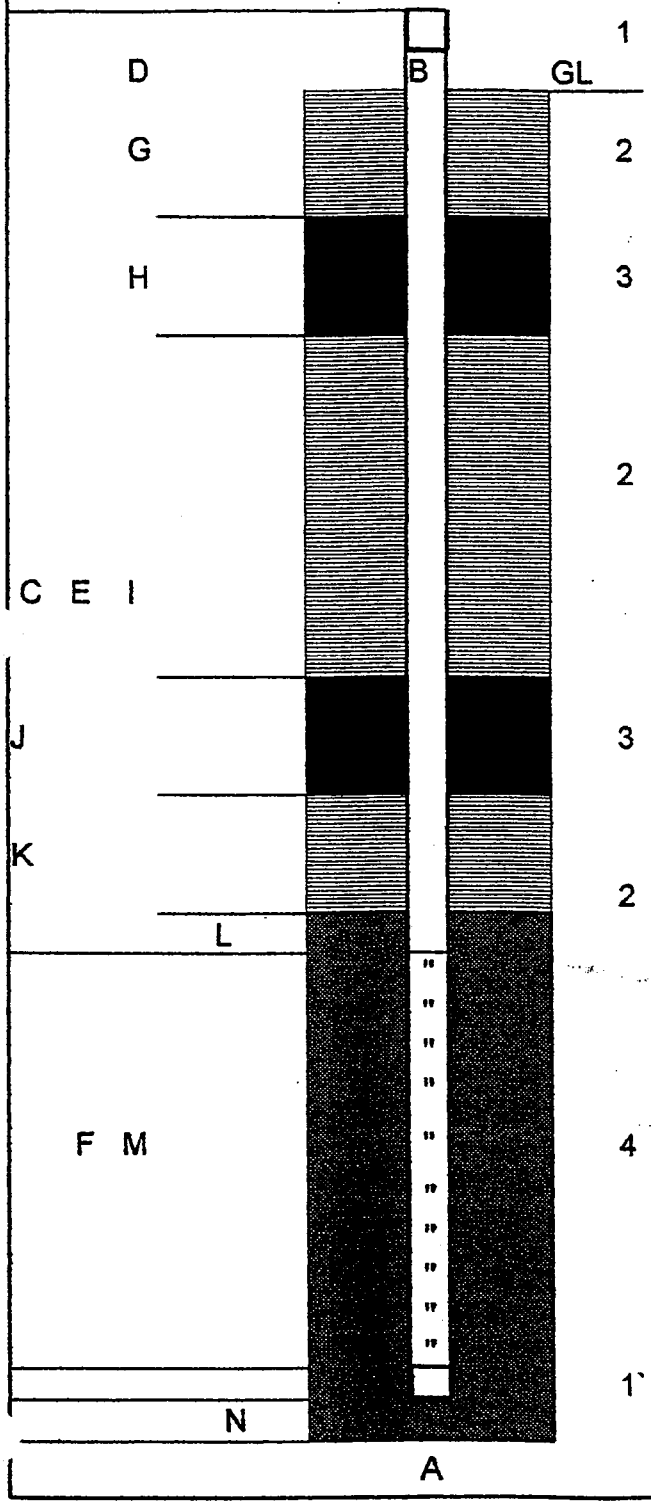
Remarks:

Ken Kozofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FL.	Well Number:	T-23
Contractor: E.B.BOREL	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-14-01
Drill Rig Type/Number:	Date Finish:	12-14-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	36'
D - Solid Pipe Above Ground WELL HEAD	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	36'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-GROUND
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	55-19
N - Gravel Pack Base	56-55

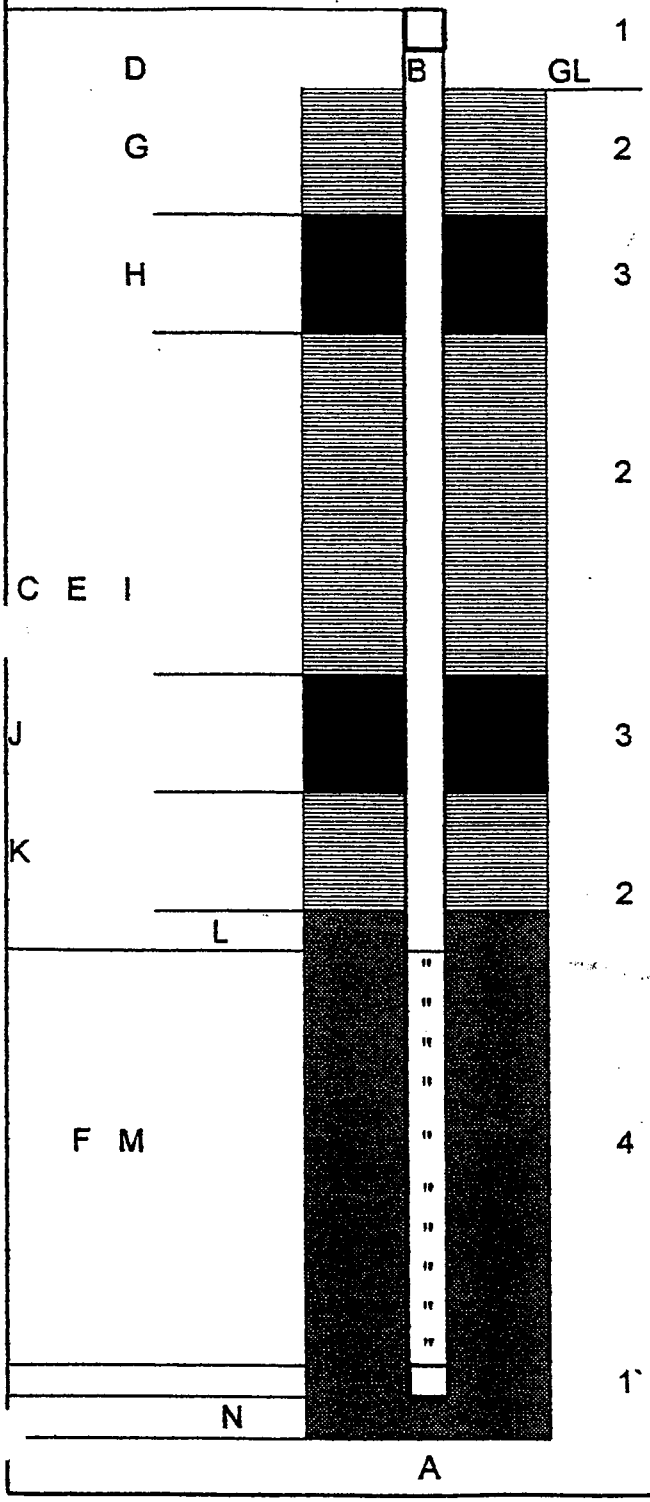
Remarks:

Ken Hagofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BOLOWID FL.	Well Number:	T-24
ontractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-15-01
Drill Rig Type/Number:	Date Finish:	12-15-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DONIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	51'
D - Solid Pipe Above Ground Grade	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	31'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-Grade
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	50-19
N - Gravel Pack Base	51-50

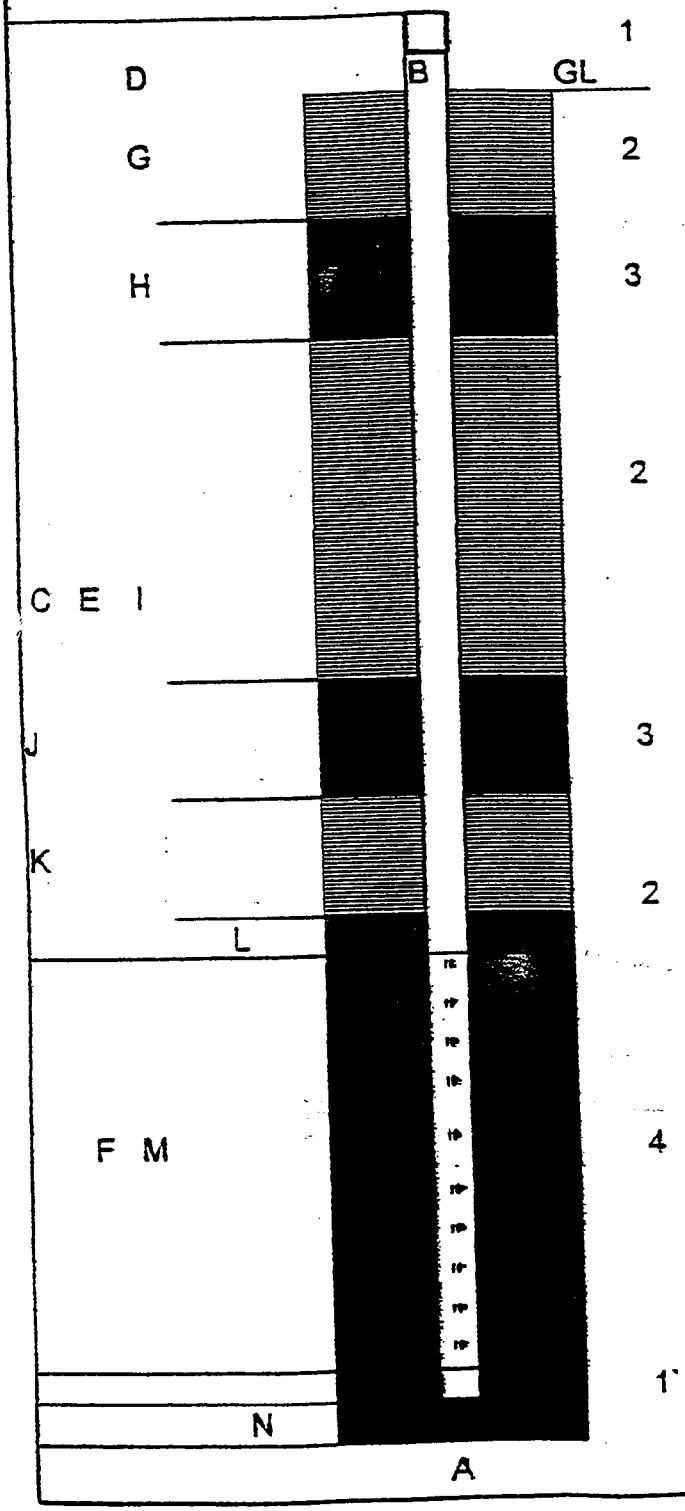
Remarks:

Ken Adzofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN ECO.	Well Number:	T-25
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NDC N/A	Date Start:	12-6-01
Drill Rig Type/Number:	Date Finish:	12-6-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	45'
D - Solid Pipe Above Ground WILL BE	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	25'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5'-GRADE
J - Bentonite Seal	15.5'-13.5'
K - Soil Backfill	17.5'-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	44-19'
N - Gravel Pack Base	45'-44'

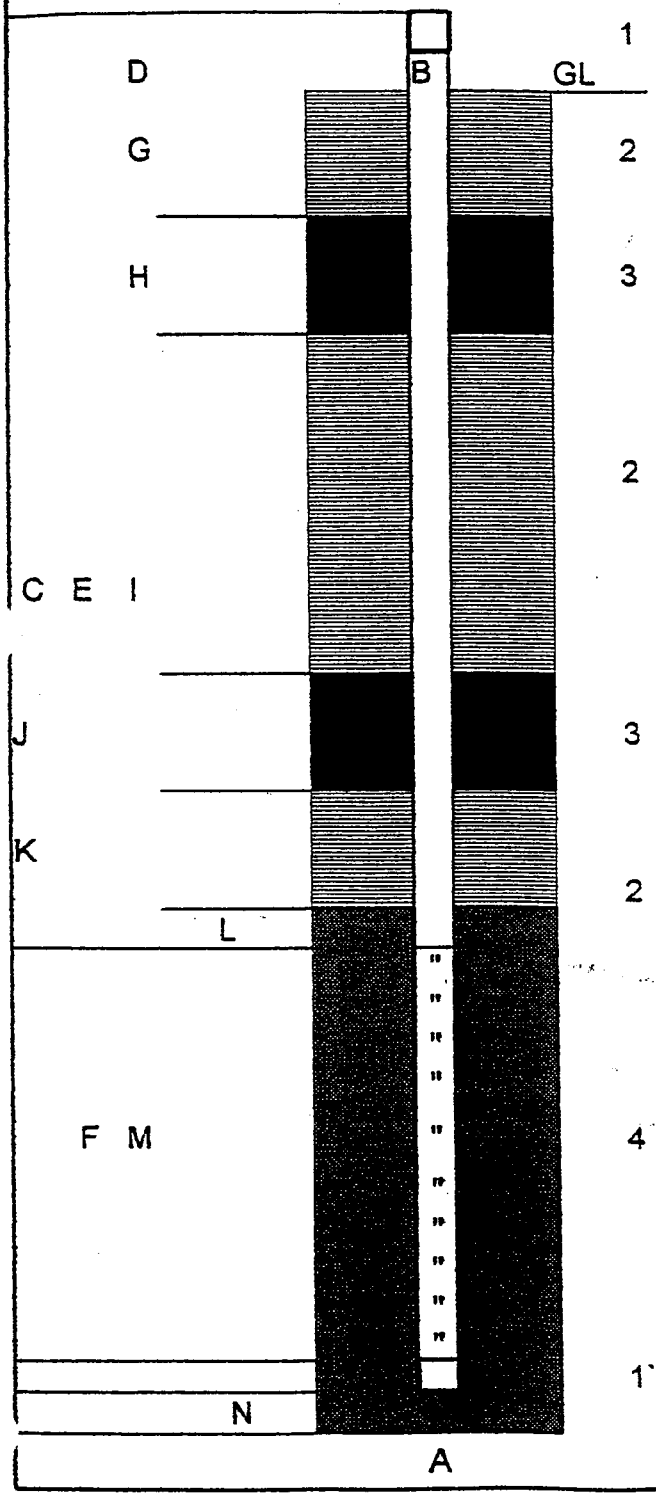
Remarks:

Ken Hayosaka

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-26
Contractor: R.J. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-12-01
Drill Rig Type/Number:	Date Finish:	12-12-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAWSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	72'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	52'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	1356@ 00E
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	71-19
N - Gravel Pack Base	72-71

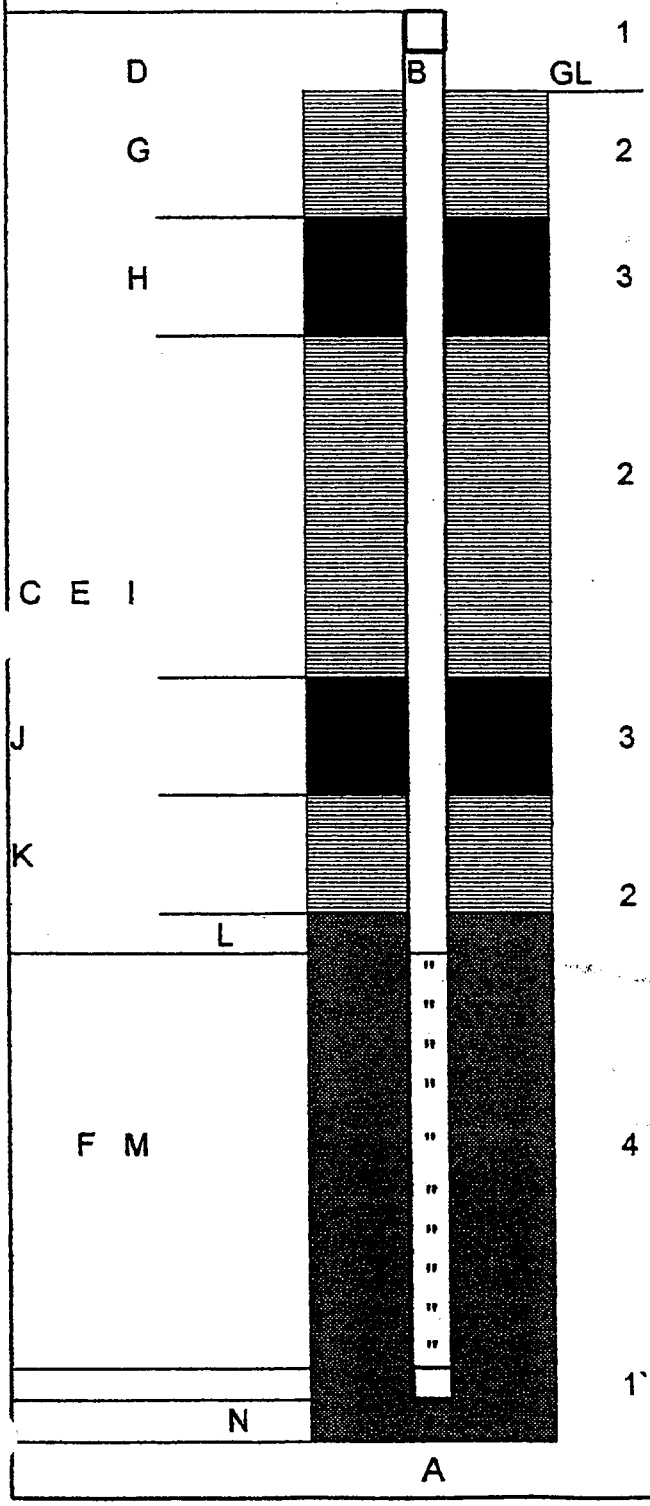
Remarks:

Ken Kozofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-27
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-11-01
Drill Rig Type/Number:	Date Finish:	12-11-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36" ✓
B - Pipe Size	6" ✓
C - Bore Depth	88' ✓
D - Solid Pipe Above Ground Will Be	4'5"
E - Solid Pipe Below Ground	20' ✓
F - Slotted Pipe	68' ✓
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5'-GRADE ✓
J - Bentonite Seal	15.5'-13.5' ✓
K - Soil Backfill	17.5'-15.5' ✓
L - Gravel Pack Above Screen	19'-17.5' ✓
M - Gravel Pack	87'-19' ✓
N - Gravel Pack Base	88'-87' ✓

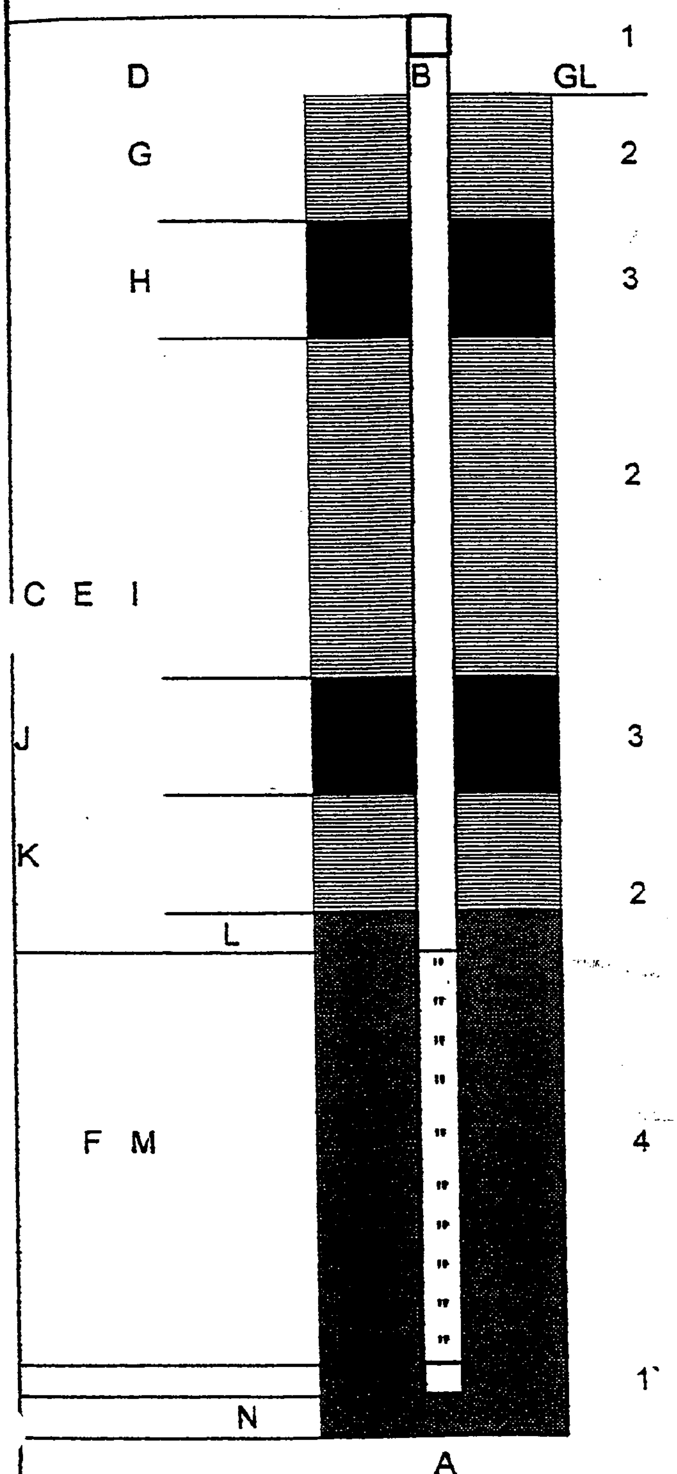
Remarks:

Ken Hagofsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE			
Project Location: BALDWIN FLA.		Well Number:	T-28
Contractor: R.B. BAKER		Sheet Number:	1 of 1
Sub Contractor: NPC	N/A	Date Start:	12-10-01
Drill Rig Type/Number:		Date Finish:	12-11-01
Drill Method: Dry Rotary Bucket Auger		QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	92'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	72'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-6ROOT
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	91-19
N - Gravel Pack Base	92-91

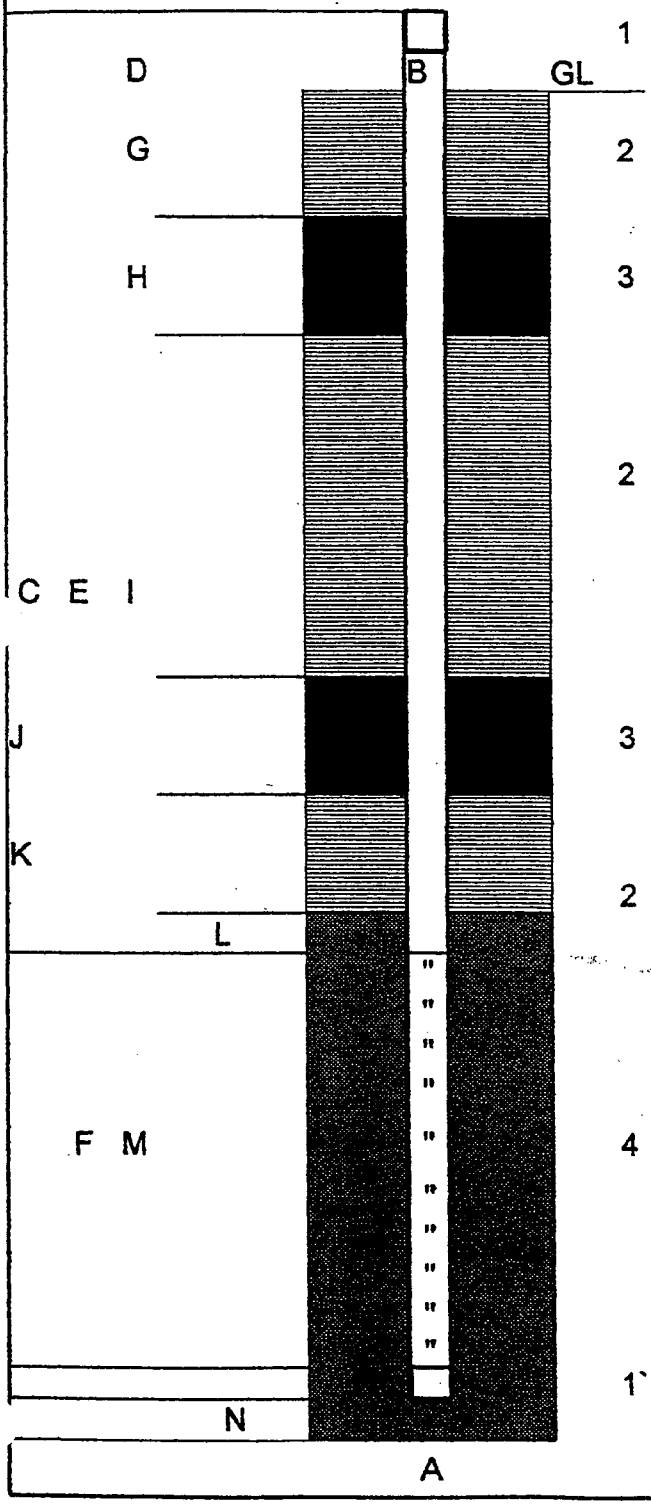
Remarks:

[illegible]

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BOLDWIN FL.	Well Number:	T-29 ✓
Contractor: R.B BOREE	Sheet Number:	1 of 1
Sub Contractor: NPE N/A	Date Start:	12-14-01 ✓
Drill Rig Type/Number:	Date Finish:	12-14-01 ✓
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36' ✓
B - Pipe Size	6" ✓
C - Bore Depth	80' ✓
D - Solid Pipe Above Ground WILL BE	4'-5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	60'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-GROUT ✓
J - Bentonite Seal	15.5-13.5 ✓
K - Soil Backfill	17.5-15.5 ✓
L - Gravel Pack Above Screen	19-17.5 ✓
M - Gravel Pack	79-19 ✓
N - Gravel Pack Base	80-79 ✓

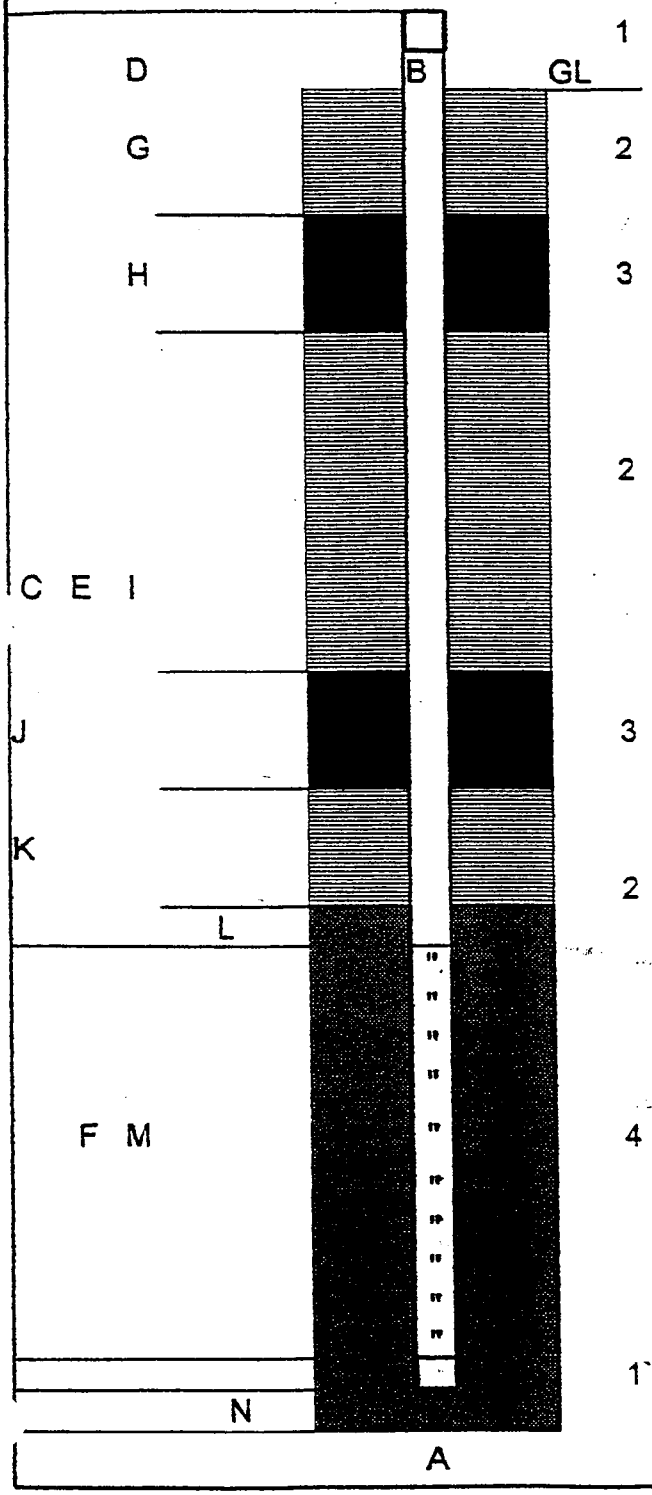
Remarks:

Ken Hagopsky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-30
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-13-01
Drill Rig Type/Number:	Date Finish:	12-13-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	80'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	60'
G - Cover Depth Over Seal	
H - Bentonite Seal	NA
I - Soil Backfill	13.5-GRADE
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	79-19
N - Gravel Pack Base	80-79

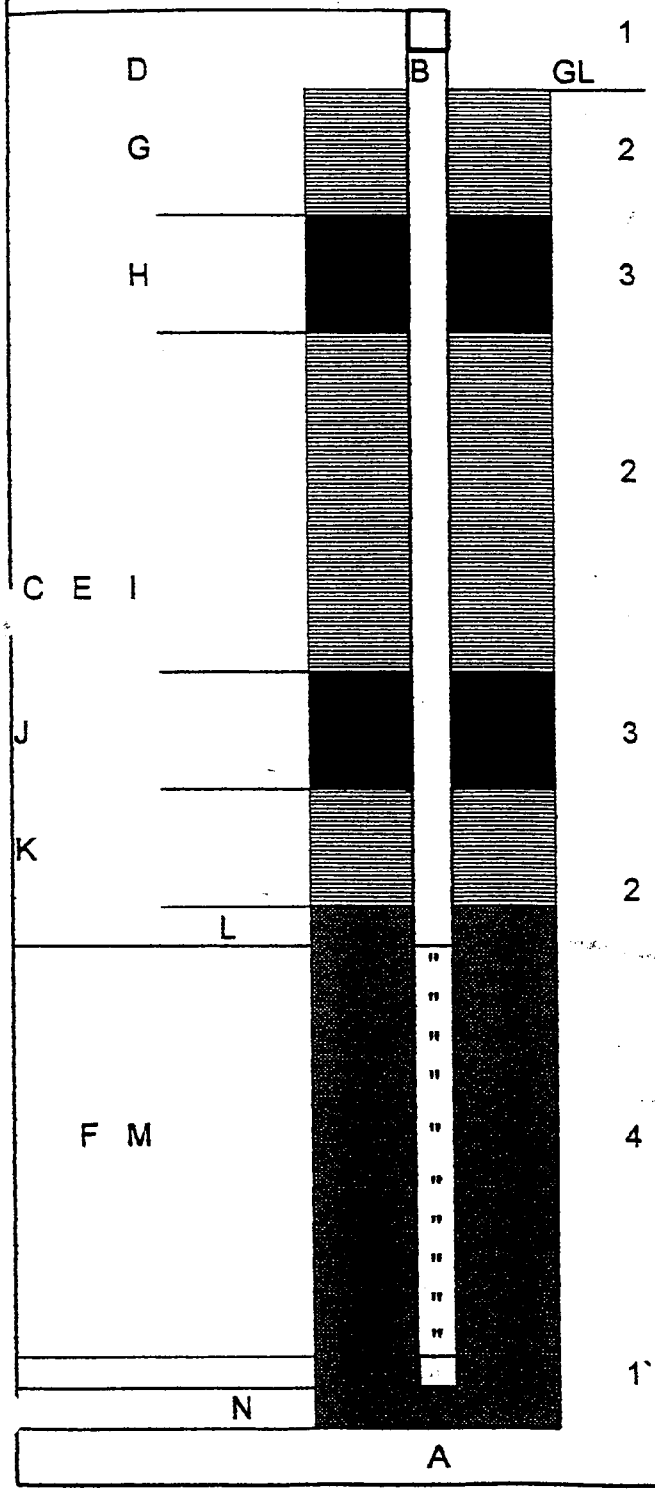
Remarks:

Ken Kagopek

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-31
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-12-01
Drill Rig Type/Number:	Date Finish:	12-12-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	75'
D - Solid Pipe Above Ground	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	55'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-6 EDGE
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	74-19
N - Gravel Pack Base	75-74

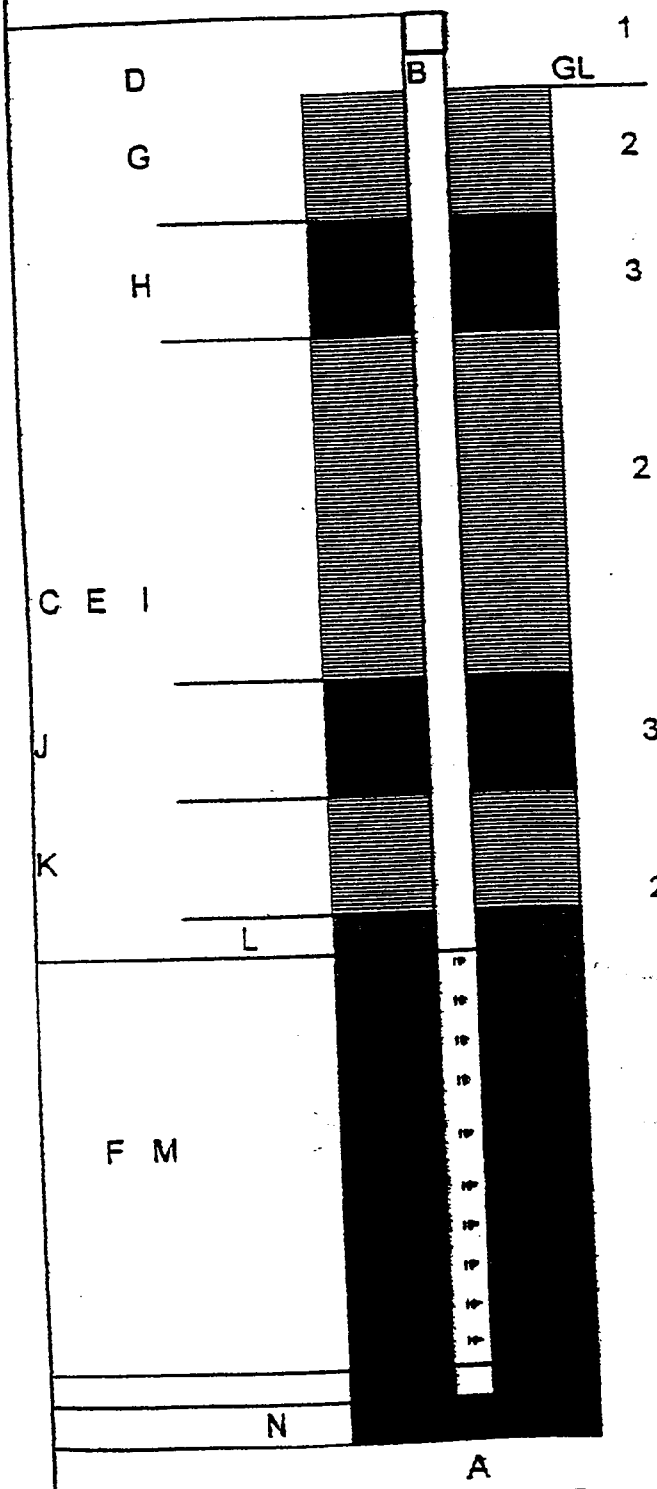
Remarks:

Ken Hargfelt

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-32
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPE N/A	Date Start:	12-4-01 12-5-01
Drill Rig Type/Number:	Date Finish:	12-5-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	75'
D - Solid Pipe Above Ground Grade	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	55'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A.
I - Soil Backfill	13.5'-Grade
J - Bentonite Seal	15.5'-13.5'
K - Soil Backfill	17.5'-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	74'-19'
N - Gravel Pack Base	75'-74'

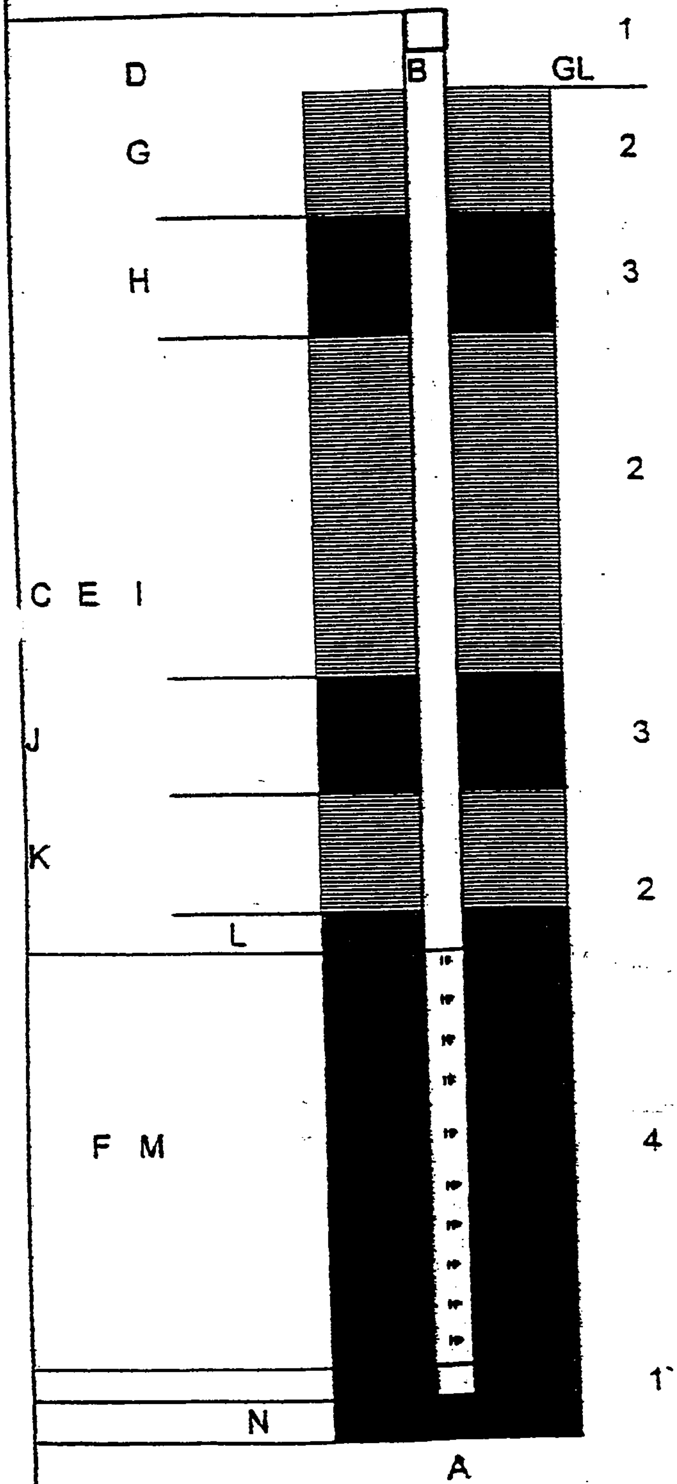
Remarks:

Ken Hayesfab

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE			
Project Location: BALDWIN FLA.		Well Number:	T-33
Contractor: R.B. BAKER		Sheet Number:	1 of 1
Sub Contractor: NPC	N/A	Date Start:	12-4-01
Drill Rig Type/Number:		Date Finish:	12-4-01
Drill Method: Dry Rotary Bucket Auger		QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack ~~(1" to 3" Stone)~~ FDOT #3	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	65'
D - Solid Pipe Above Ground WILL BE	4'.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	45'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5'-6.5'
J - Bentonite Seal	15.5-13.5'
K - Soil Backfill	17.5'-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	64'-19'
N - Gravel Pack Base	65'-64'

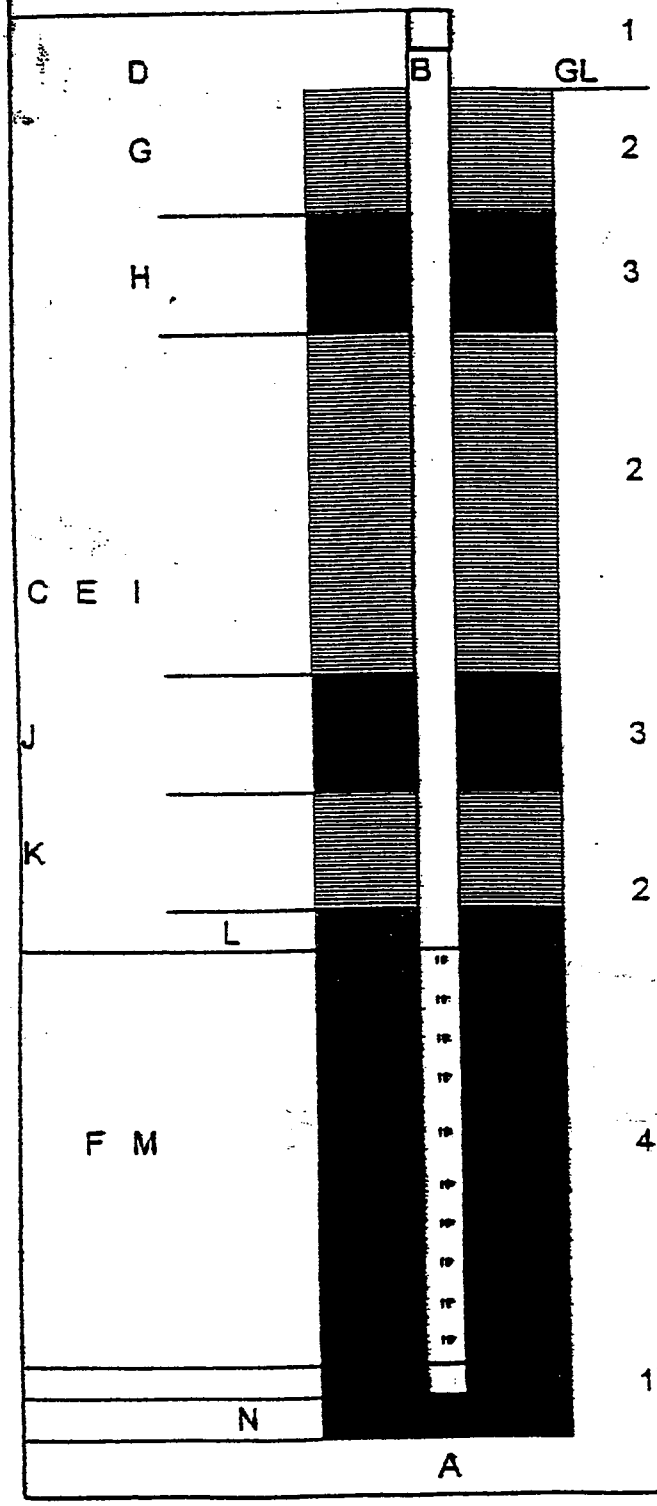
Remarks:

[illegible]

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BADGER FLA.	Well Number:	T-34
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-4-01
Drill Rig Type/Number:	Date Finish:	12-4-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	50'
D - Solid Pipe Above Ground	4'5"
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	30'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5'-GRADE
J - Bentonite Seal	15.5'-13.5'
K - Soil Backfill	17.5'-15.5'
L - Gravel Pack Above Screen	19'-17.5'
M - Gravel Pack	49'-19'
N - Gravel Pack Base	50'-49'

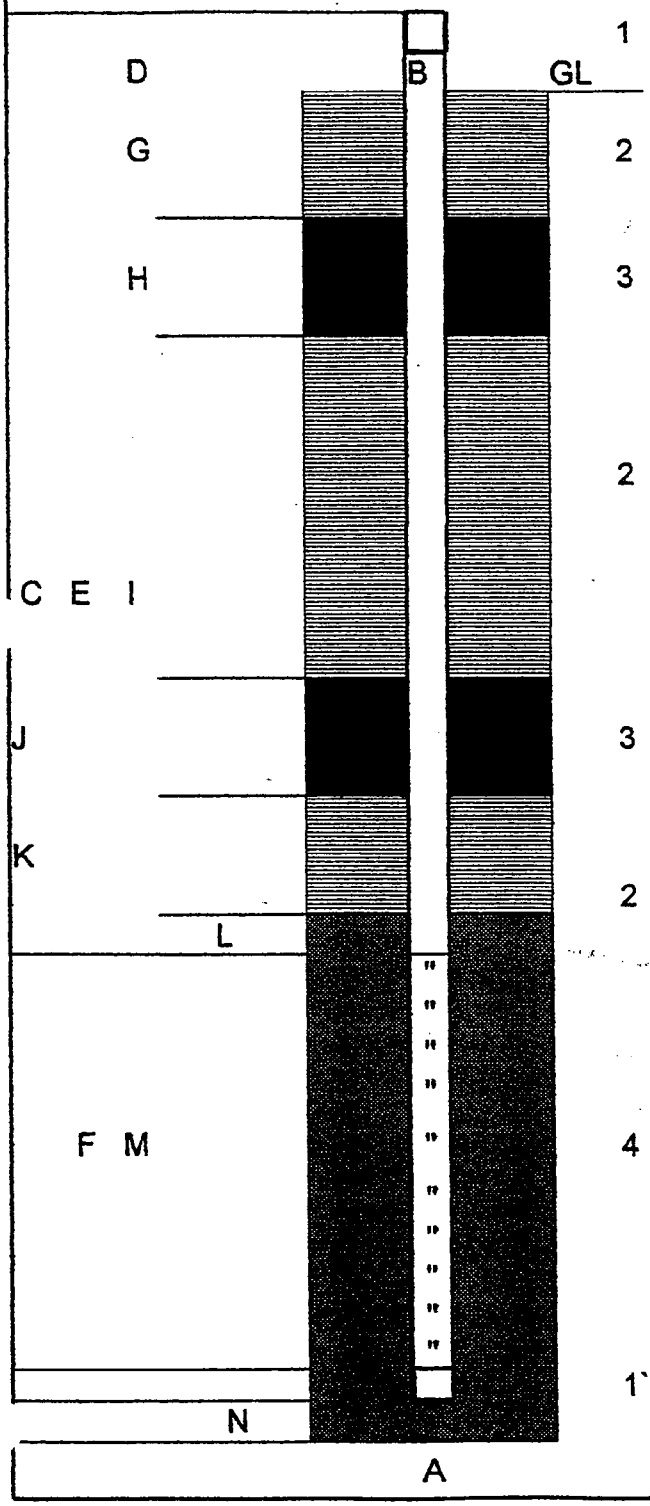
Remarks:

Ken Hayosky

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BOULDER, CO.	Well Number:	T-35
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	12-14-01
Drill Rig Type/Number:	Date Finish:	12-14-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DOUGLAS



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	46'
D - Solid Pipe Above Ground WILL BE	4.5
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	26'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-GRADE
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	45-19
N - Gravel Pack Base	46-45

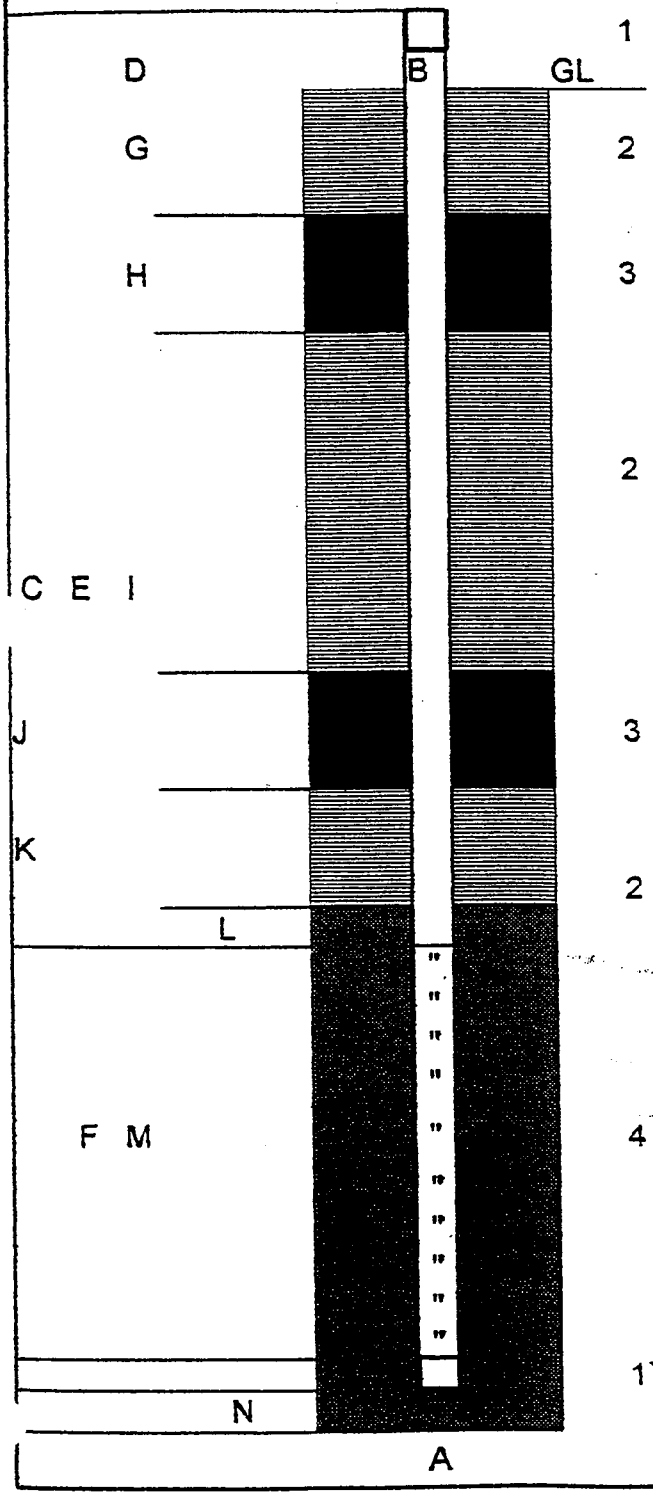
Remarks:

Ken Hagopian

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-36A
Contractor: R.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	11-30-01
Drill Rig Type/Number:	Date Finish:	11-30-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	56'
D - Solid Pipe Above Ground	4-5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	36'
G - Cover Depth Over Seal	
H - Bentonite Seal	NA
I - Soil Backfill	13.5-6RDE
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	55-19
N - Gravel Pack Base	56-55

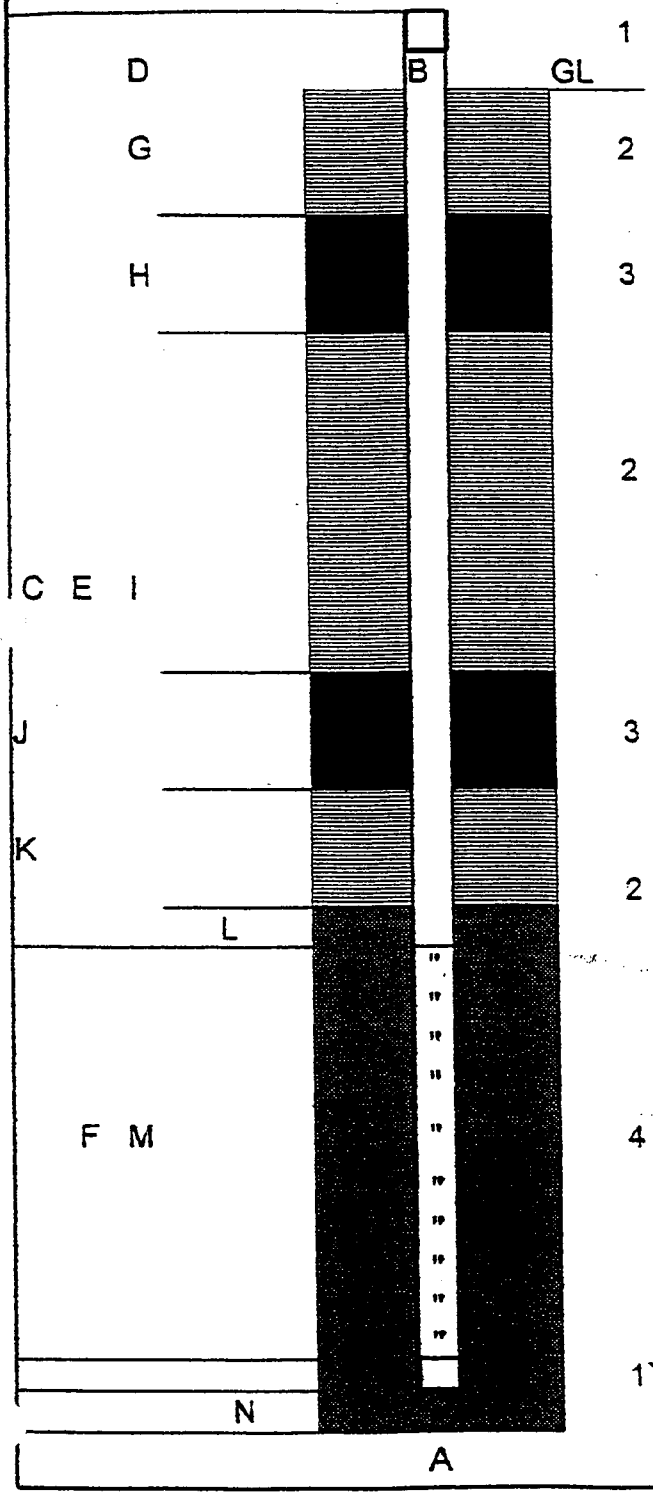
Remarks: ABANDONED T-36 DUE TO OBSTRUCTION DRILLED T-36A APPROX. 15' SOUTHWEST

Ken Humphrey

NATIONAL PIPE INC.

GAS EXTRACTION WELL LOG

Project: TRAIL RIDGE		
Project Location: BALDWIN FLA.	Well Number:	T-37
Contractor: J.B. BAKER	Sheet Number:	1 of 1
Sub Contractor: NPC N/A	Date Start:	11-28-01
Drill Rig Type/Number:	Date Finish:	11-28-01
Drill Method: Dry Rotary Bucket Auger	QA Engineer:	BILL DAVIDSON



LIST OF MATERIALS

1. Top and Bottom Cap	
2. Type I Cover Soil	
3. Bentonite Layer	
4. Gravel Pack (1" to 3" Stone)	

SPECIFICATIONS

A - Bore Size	36"
B - Pipe Size	6"
C - Bore Depth	51'
D - Solid Pipe Above Ground	4.5'
E - Solid Pipe Below Ground	20'
F - Slotted Pipe	31'
G - Cover Depth Over Seal	
H - Bentonite Seal	N/A
I - Soil Backfill	13.5-6 Grout
J - Bentonite Seal	15.5-13.5
K - Soil Backfill	17.5-15.5
L - Gravel Pack Above Screen	19-17.5
M - Gravel Pack	50-19
N - Gravel Pack Base	51-50

Remarks:

Ken Hagopian

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. W-26
TOTAL DEPTH 42' ✓
START DATE: 11-28-01
FINISH DATE: 11-28-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-4'	TOPCOVER	DRY		
4'-42'	H.H.,CARPET,MED.	DRY	106	
	PLASTIC,METAL		120@25'	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. W-27
TOTAL DEPTH 44.5' MISTAKE
START DATE: 11-27-01
FINISH DATE: 11-27-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2-38'	H.HCARPET,PLASTIC	DRY		
38'-39'	DAYCOVER	DRY		
39'-44.5'	H.HCARPET,PLASTIC	DRY		

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. W-37
TOTAL DEPTH 45'
START DATE: 12-13-01
FINISH DATE: 12-13-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-1'	TOPCOVER	DRY		
1'-45'	H.H.,WOOD,MED.	DRY	130	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
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SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-1-U
TOTAL DEPTH 55'
START DATE: 12-9-01
FINISH DATE: 12-9-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-30'	H.H.,WOOD,MED	DRY	130	
30'-31'	COVER	DRY		
31'-48'	H.H.,WOOD,MED.	DRY	140	
48'-52'	WIRE,INSULATORS	DRY		
52'-55'	H.H.,WOOD,	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT:	NATIONAL PIPE	HOLE SIZE	36"
LOCATION:	JACKSONVILLE FL.	DRILLER:	STAN
SITE NAME:	TRAILRIDGE LANDFILL	HELPER:	AL

WELL NO.	T-2-R
TOTAL DEPTH	80'
START DATE:	12-9-01
FINISH DATE:	12-10-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-40'	H.H.,MED.,WOOD	DRY	120	
40'-41'	COVER	DRY		
41'-80'	H.H.,WOOD,METAL	DRY	145	

COMMENTS: Well moved APPROX 10' SOUTH UP THE SLOPE. THE WELL WAS ADJUSTED TO KEEP IT OUT OF THE TERRACE SWALE FOR MAINT PURPOSES

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-3-U
TOTAL DEPTH 43'
START DATE: 12-7-01
FINISH DATE: 12-7-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-43'	H.H.,WOOD,MED.	DRY		
57' PLUG	METAL,PLASTIC			
HIT OBST.				

COMMENTS: REFUSAL AT 43' STEELCOULD NOT ADVANCE HOLE

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-4-U
TOTAL DEPTH 35'
START DATE: 12-6-01
FINISH DATE: 12-6-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-35'	H.H.,WOOD MED.	DRY	130	

COMMENTS: HIT 4" LATERAL

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-18-U
TOTAL DEPTH 35'
START DATE: 12-6-01
FINISH DATE: 12-6-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-35'	H.H.,WOOD.MED.	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
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SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-19-U
TOTAL DEPTH 55' 65'
START DATE: 12-6-01
FINISH DATE: 12-6-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-45'	H.H.,WOOD,MED.	DRY	130	
45'-46'	COVER	DRY		
46'-55'	H.H.,WOOD,METAL	DRY	140	

COMMENTS: REFUSAL AT 55' STEEL COULD NOT ADVANCE HOLE

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-20-U
TOTAL DEPTH 73'
START DATE: 12-6-01
FINISH DATE: 12-7-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-45'	H.H.,WOOD,MED.	DRY	130	
45'-46'	COVER	DRY		
46'-73'	H.H.,MED.,WOOD	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-21-U
TOTAL DEPTH 57'
START DATE: 12-8-01
FINISH DATE: 12-8-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-40	H.H.,WOOD,MED.	DRY	125	
40'-41'	COVER	DRY		
41'-57	H.H.,MED. WOOD	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-22
TOTAL DEPTH 48'
START DATE: 11-28-01
FINISH DATE: 11-28-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-25'	H.H.,MED.PLASTIC	SLIGHT@10'	115	
25'-26'	DAYCOVER	DRY	120	
26'-48'	H.H.,CARPET,METAI	DRY	120	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-23
TOTAL DEPTH 56' ✓
START DATE: 12-14-01
FINISH DATE: 12-14-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-35'	H.H.,CARPET,MED.	DRY	120	
35'-36'	COVER	DRY		
36'-56'	H.H.,MED.,WOOD	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-24
TOTAL DEPTH 51'
START DATE: 12-15-01
FINISH DATE: 12-15-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-1'	TOPCOVER	DRY		
1'-51'	H.H.,MED.,CARPET	DRY	135	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-25
TOTAL DEPTH 45'
START DATE: 12-6-01
FINISH DATE: 12-6-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-30'	H.H.,WOOD,METAL	DRY	120	
30'-31'	COVER	DRY		
31'-45'	H.H.,MED,WOOD	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-26
TOTAL DEPTH 72'
START DATE: 12-12-01
FINISH DATE: 12-12-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-40'	H.H.,WOOD,MED.	DRY	120	
40'-41'	COVER	DRY		
41'-72'	H.H.,WOOD,MED.	DRY	145	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-27
TOTAL DEPTH 88' √
START DATE: 12-11-01
FINISH DATE: 12-11-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-40'	H.H.,WOOD,MED	DRY	125	
40-41'	COVER	DRY		
41-70'	H.H.,MED.,METAL	DRY	140	
70'-71'	COVER	DRY		
71'-88'	H.H.,WOOD,CARPET	DRY	145	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-28
TOTAL DEPTH 92'
START DATE: 12-10-01
FINISH DATE: 12-11-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-40'	H.H.,MED.,WOOD	DRY	125	
40'-41'	COVER	DRY		
41'-65'	H.H.,WOOD,WIRE	DRY	130	
65'-66'	COVER	DRY		
66'-92'	H.H.,WOOD,METAL	DRY	145	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-29
TOTAL DEPTH 80'
START DATE: 12-14-01
FINISH DATE: 12-14-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-35'	H.H.,MED.,WOOD	DRY	125	
35'-36'	COVER	DRY		
36'-50'	H.H.,WOOD,METAL	DRY	135	
50'-51'	COVER	DRY		
51'-80'	H.H.,MED.,WOOD	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-30
TOTAL DEPTH 80'
START DATE: 12-13-01
FINISH DATE: 12-13-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-35'	H.H.,WOOD,MED.	DRY	120	
35'-36'	COVER	DRY		
36'-55'	H.H.,WOOD,CARPET	DRY	135	
55'-56'	COVER	DRY		
56'-80'	H.H.,WOOD,METAL	DRY	145	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-31
TOTAL DEPTH 75'
START DATE: 12-12-01
FINISH DATE: 12-12-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-3'	TOPCOVER	DRY		
3'-35'	H.H.,MED.,WOOD	DRY	120	
35'-36'	COVER	DRY		
36'-75'	H.H.,METAL,WOOD	DRY	135	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-32
TOTAL DEPTH 75' ✓
START DATE: 12-5-01
FINISH DATE: 12-5-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-50'	H.H.,WOOD,MED.	DRY	120	
50'-51'	COVER	DRY		
51'-75'	H.H.,WOOD,METAL	DRY	135	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-33
TOTAL DEPTH 65'
START DATE: 12-04-01
FINISH DATE: 12-04-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-35'	H.H.,WOOD,CLOTHES	DRY	130	
35'-36'	DAYCOVER	DRY		
36'-65'	H.H.,WOOD,MED.	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-34
TOTAL DEPTH 50'
START DATE: 12-04-01
FINISH DATE: 12-04-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-25'	H.H.,WOOD,PLASTIC	DRY	120	
25'-26'	DAYCOVER	DRY		
26'-50'	H.H.,WOOD,CARPET	DRY	140	

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-35
TOTAL DEPTH 46' ✓
START DATE: 12-14-01
FINISH DATE: 12-14-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-1'	TOPCOVER	DRY		
1'-46'	H.H.,MED.WOOD	DRY	135	
	CARPET			

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN
HELPER: AL

WELL NO. T-36
TOTAL DEPTH 36'
START DATE: 11-29-01
FINISH DATE: 11-29-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-15	H.H.,CARPET,CLOTH	DRY	110	
15'-20'	HILINE CABLE	DRY		
20'-36'	H.H.,WIRE	DRY	115	

COMMENTS: ABDONDONED HOLE CABLE CLAPSED BACK TO HOLE AND BRIDGE OFF HOLE AND CAUSED REFUSAL AND LOSS OF DRILL BUCKET IN HOLE FISHED BUCKET OUT LOSS OF FIVE HOUR DRILLING TO RETRIEVE BUCKET AND MAKE TOOLS

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT: NATIONAL PIPE
LOCATION: JACKSONVILLE FL.
SITE NAME: TRAILRIDGE LANDFILL

HOLE SIZE 36"
DRILLER: STAN GARRISON
HELPER: AL

WELL NO. T-36-A
TOTAL DEPTH 56'
START DATE: 11-30-01
FINISH DATE: 11-30-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-56'	H.H.,METAL,TIRES	DRY	110	
	PLASTIC,CLOTHES	SLIGHT@50'	120@30'	
	CARPET			

COMMENTS:

DRILLING LOG

RECOVERY DRILLING SERVICES, INC.
310 VERNON AVE. PO.BOX 505
SOUTH BARRE MA. 01074

PH. 978-355-5100
FX. 978-355-0111

CLIENT:	NATIONAL PIPE	HOLE SIZE	36"
LOCATION:	JACKSONVILLE FL.	DRILLER:	STAN
SITE NAME:	TRAILRIDGE LANDFILL	HELPER:	AL

WELL NO.	T-37
TOTAL DEPTH	51'
START DATE:	11-28-01
FINISH DATE:	11-28-01

DEPTH (from - to)	COMPOSITION	MOISTURE	TEMP	DATES
0-2'	TOPCOVER	DRY		
2'-30'	H.H.,PLASTIC,MED.	DRY	116	
30'-31'	DAYCOVER	DRY	122	
31'-51'	H.H.,CARPET,METAI	DRY	122	

COMMENTS:

B. PRESSURE TEST REPORTS

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLK INCREMENTAL CLOSURE Date: 12-20-01

Contractor: R.B BAKER Time: 12:00 PM

Person Performing Tests: NATIONAL PIPING KEN HAGOESKY

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
6" GAS HEADER T-1U - T-4U SDR 17
870' 6" HEADER 75' 6" LATERAL 45' 4" RISER

Location of Pipe Test Segment 113+10E X 95+00N 121+70 E X 95+00 N

Station From: 113+10 E Station To: 121+70 E

T_i = Initial Temperature = 16.66 °C

P_i = Initial test pressure = 12 psig

P_c = Initial Pressure in psig corrected for temperature (T_t) at time "t"

t = Time in minutes from initiation of test

T_t = Temperature in °C at time 't'

P_t = Test pressure in psig at time 't'

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	16.66	12	12	0
20	16.66	12	12	0
30	16.66	12	12	0
40	16.66	12	12	0
50	16.66	12	12	0
60	16.66	12	12	0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
TEST OBSERVED BY W. DAVIDSON ETEN

Ken Hagoesky

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLF INCREMENTAL CLOSURE Date: 12-18-01

Contractor: R.B BAKER Time: 4:30 PM

Person Performing Tests: NATIONAL PIPING LEE BARNETT

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
6" GAS HEADER WELLS T-184 - T-214 SDR-17
930' 6" HEADER 50' 6" LATERAL 50' 4" LATERAL RISER
Location of Pipe Test Segment 114+00 E x 92+70N 123+30 E x 92+80N
Station From: 114+00 E Station To: 123+30 E

T_i = Initial Temperature = 18.33 °C
P_i = Initial test pressure = 12 psig
P_c = Initial Pressure in psig corrected for temperature (T_t) at time "t"
t = Time in minutes from initiation of test
T_t = Temperature in °C at time 't'
P_t = Test pressure in psig at time 't'

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7 = 12$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	18.33	12	12	0
20	18.33	12	12	0
30	18.33	12	12	0
40	17.22	12	11.9	0
50	17.22	12	11.9	0
60	16.66	12	11.85	0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
TEST OBSERVED BY W. DAVIDSON ETEM

Ken Hagopian

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLF INCREMENTAL CLOSURE Date: 12-20-01

Contractor: R.B BAKER Time: 12:00 PM

Person Performing Tests: NATIONAL PIPING KEN HAGOFSKY

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
6" GAS HEADER T-1A - T-4A SDR 17
870' 6" HEADER 75' 6" LATERAL 45' 4" RISER

Location of Pipe Test Segment 113+10E x 95+00N 121+70 E x 95+00 N

Station From: 113+10 E Station To: 121+70 E

T_i	=	Initial Temperature	=	16.66 °C
P_i	=	Initial test pressure	=	12 psig
P_c	=	Initial Pressure in psig corrected for temperature (T_i) at time "t"		
t	=	Time in minutes from initiation of test		
T_t	=	Temperature in °C at time 't'		
P_t	=	Test pressure in psig at time 't'		

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	16.66	12	12	0
20	16.66	12	12	0
30	16.66	12	12	0
40	16.66	12	12	0
50	16.66	12	12	0
60	16.66	12	12	0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
TEST OBSERVED BY G. DAVIDSON ETEM

K. Hagofsky

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLF INCREMENTAL CLOSURE Date: 2-1-02

Contractor: R.B BAKER Time: 4:00 PM - 5:00 PM

Person Performing Tests: KEN HAGOFSKY NATIONAL PIPING

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
640' 10" SDR 17 2070' 8" WELL T-30 - T-37 128' 4" RISERS
1880 6" WELL T-22 TO T-29 SDR 17 170' 6" LATERAL

Location of Pipe Test Segment REMAINDER OF PROJECT LESS REPLACEMENT HEADERS + CLOSURE AREAS

Station From: 90+30 N + 123+30 E Station To: 90+80 N + 103+00 E
86+90 N + 123+20 E 86+90 N + 103+00

T_i = Initial Temperature = 26.66 °C

P_i = Initial test pressure = 10 psig

P_c = Initial Pressure in psig corrected for temperature (T_t) at time "t"

t = Time in minutes from initiation of test

T_t = Temperature in °C at time 't'

P_t = Test pressure in psig at time 't'

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	26.66	10	10	0
20	26.66	10	10	0
30	26.66	10	10	0
40	26.66	10	10	0
50	26.66	10	10	0
60	26.66	10	10	0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
TEST OBSERVED BY W. DAVIDSON ETEM

Ken Hagofsky

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLN Incremental Closure Date: 5-13-02

Contractor: R.B Baker GSE Plastic Fusion Time: 12:00 PM

Person Performing Tests: John K Wade Plastic Fusion Fab.

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
6" 8" 12" and 4" GPS Header west of T-22 + T-37
and within units 21-23 175' 4" incl Risers 290' 6"
Location of Pipe Test Segment 120' 8" 522' 12" SDR 17
Station From: 86+80N - 92+00N Station To: 100+75E - 103+50E

T_i = Initial Temperature = 33 °C
P_i = Initial test pressure = 10 psig
P_c = Initial Pressure in psig corrected for temperature (T_t) at time "t"
t = Time in minutes from initiation of test
T_t = Temperature in °C at time 't'
P_t = Test pressure in psig at time 't'
P_c = $\frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$

Percent Pressure Drop = $\frac{P_c - P_t}{P_c} \times 100$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	33	10	10	0
20	33	10	10	0
30	33	10	10	0
40	33	10	10	0
50	33	10	10	0
60	33	10	10	0

Pass/Failure: Pass Retest (yes/no) No

Description/Nature of leaks repair of retest segment:
Test observed by William Davidson ET&M
John K Wade Plastic Fusion FAB

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLF GAS SYSTEM EXPANSION Date: 5.20.02

Contractor: R.B. BAKER / PLASTIC FUSION Time: 3:00 PM - 4:00 PM

Person Performing Tests: JOHN C. WADE PLASTIC FUSION FABRICATORS

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
225' 6" SDR 17, 250' 22" SDR 17, 77' 8" SDR 17
35' 4" RISER PIPE SDR 17

Location of Pipe Test Segment UNITS 1-9 6" TIE-IN WELL T-39 TO 22" HEADER

Station From: 22" HEADER 89+05 - 86+70 Station To: 8" TIE-IN WELL T-30 TO 22"

T_i	=	Initial Temperature	=	23.88 °C
P_i	=	Initial test pressure	=	10 psig
P_c	=	Initial Pressure in psig corrected for temperature (T_i) at time "t"		
t	=	Time in minutes from initiation of test		
T_t	=	Temperature in °C at time 't'		
P_t	=	Test pressure in psig at time 't'		
P_c	=	$\frac{(P_t + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$		

Percent Pressure Drop = $\frac{P_c - P_t}{P_c} \times 100$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	23.88	10		0
20	23.88	10		0
30	23.88	10		0
40	23.88	10		0
50	23.88	10		0
60	23.88	10		0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
GILBERT DAWSON OBSERVED TEST

END OF SECTION 01669

ATTACHMENT 1 TO SECTION 01669
FORM
PE PIPE PRESSURE TEST REPORT

Project Name/No.: TRLF Gas System Expansion Date: 5-22-02

Contractor: R.B Baker / Plastic Fusion Time: 7:30 AM - 8:30 AM

Person Performing Tests: John C Wade Plastic Fusion Fabricators

Description/Location of Test Segment: (Pipe Diameter, Length, and SDR's)
224 Feet of 6" SDR-17 From Remote Well 7 To Tie-in @ Phase III A Vault Box

Location of Pipe Test Segment
Station From: 124+20E - 126+25E Station To: 88+10N - 88+70N

T_i	=	Initial Temperature	=	17.77 °C
P_i	=	Initial test pressure	=	_____ psig
P_c	=	Initial Pressure in psig corrected for temperature (T_i) at time "t"		
t	=	Time in minutes from initiation of test		
T_t	=	Temperature in °C at time 't'		
P_t	=	Test pressure in psig at time 't'		

$$P_c = \frac{(P_i + 14.7)(T_t + 273)}{(T_i + 273)} - 14.7$$

$$\text{Percent Pressure Drop} = \frac{P_c - P_t}{P_c} \times 100$$

Time (min)	T_t Temp Reading (°C)	P_t Gauge Pressure (psig)	P_c Corrected Pressure (psig)	Pressure Drop (%)
0	17.77	10		0
20	17.77	10		0
30	17.77	10		0
40	17.77	10		0
50	17.77	10		0
60	17.77	10		0

Pass/Failure: PASS Retest (yes/no) NO

Description/Nature of leaks repair of retest segment:
Test observed By William Davidson

Post-it® Fax Note 7671 | Date | # of pages ▶
To ET&M | From Bill Davis
Co./Dept. Francis Day 90 | Co.
Phone # | Phone #
Fax # 696-9485 | Fax #

C. CERTIFICATION OF SYSTEM OPERATION

Shaw™ EMCON/OWT, Inc.

999 Remington Blvd.
Unit A
Bolingbrook, IL 60440
Tel: 630.771.9200
Fax: 630.771.9250

July 30, 2002
Project 829385.04000000

Mr. Greg Mathes
District Manager
Trail Ridge Landfill, Inc.
5110 U.S. Highway 301 South
Baldwin, FL 32234-3608

RE: Trail Ridge LFG Management System
Final Construction Review

Dear Mr. Mathes:

A final field inspection of the Trail Ridge LFG Management System construction project was conducted by Bill Davidson of England, Thims & Miller, Inc. (ETM) and Tom Bilgri of EMCON on June 20, 2002. This inspection was performed in order to confirm general compliance of the construction project with the approved plans and specifications. The LFG management system expansion appears to meet all the criteria set forth in the approved plans and specifications and appears to be operating as designed, with vacuum distribution to all portions of the extraction system.

A number of items were noted during the inspection that should be remedied by the Contractor prior to demobilization from the site. It is our understanding, through discussions with ETM, that the "punch list" items have been addressed and that construction is complete.

We have also reviewed the LFG system portion of the draft Construction Certification documents (as-built drawings, test reports, etc.) prepared by ETM and others. These documents confirm that the LFG management system was constructed in substantial accordance with both the approved plans and specifications and GCCS Design Plan, and is expected to operate as intended. Some minor field modifications were made to conform to field conditions at the time of construction. However, none of these modifications constitute material alterations to the original plan.

I would be pleased to discuss this evaluation with you in greater detail. Please contact my office (630-771-9213) at your convenience with any questions you may have. Thank you.

Sincerely,

EMCON/OWT, Inc.

Thomas A. Bilgri, P.E.
Director, LFG Design Center

CC: J. Bader Clem, ETM
G. Scherbert, EMCON/OWT - Alpharetta

WASTE ENERGY TECHNOLOGY, LLC

11 Tupelo Avenue, S.E. • Fort Walton Beach, Florida 32548-5414
Tel (850) 243-0033 • Fax (850) 243-0077

July 12, 2002

Mr. Greg Mathes
District Manager
Trail Ridge Landfill, Inc.
5110 U.S. Highway 301
Baldwin, FL 32234-3608
P: (904) 289-9100 F: (904) 289-9013

Re: Landfill Gas Management System Expansion Startup
Trail Ridge Landfill, Inc.
Title V Permit No.: 0310358-002-AV

Dear Greg:

On February 14, 2002, Waste Energy Technology, LLC (WET) started up and brought online 23 gas extraction wells, which were installed as an expansion to the existing landfill gas management system. On June 19, 2002, WET started up and brought online an additional three (3) gas extraction wells and two (2) remote wellheads connected to leachate cleanout risers, which were also installed as part of the expansion to the existing landfill gas management system. WET monitors these extraction points monthly for pressure, oxygen concentration, and temperature as required by NSPS and the site's Title V Permit.

If you have any comments or questions regarding this matter, please contact me at phone number 850-243-0033.

Respectfully Submitted,
Waste Energy Technology, LLC

Matthew H. Zinke, P.E.
Regional Engineer

L:\PROJECT\Tridge202569\202569ExpStartupLetter.doc

enc: As Noted Above

cc: Juanita Clem - England, Thims & Miller, Inc.

SECTION II

WEEKLY PROGRESS MEETING MINUTES

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E. England, P.E., C.E.O.
Douglas C. Miller, P.E., President
N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., P.S.M., V.P.

MEETING MINUTES

DATE: November 12, 2001

PLACE: Trail Ridge Landfill

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
Pre-Construction Meeting
ET&M Project No. E00-117-04

ATTENDEES: Greg Mathes, Trail Ridge Landfill, Inc. (TRLF)
Jimmy Purvis, TRLF
Robert Feely, R.B. Baker Construction Inc. (Baker)
Jeff Marshall (Baker)
John Solich, Baker
Bobby Townsend, Baker
Jim Horton, LAW Engineering (LAW)
John Teague, LAW
Cliff Cosby, LAW
Tom Smith, Robert M. Angas Associates, Inc. (Angas)
Juanitta Clem, England, Thims & Miller, Inc. (ETM)
William Davidson, ETM
Francis Dayao, ETM

I. Introduction

Juanitta Clem introduced Greg Mathes, General Manager of Trail Ridge Landfill, Inc. (TRLF), William Davidson and Francis Dayao with England, Thims & Miller, Inc. (ETM), Jim Horton and John Teague with LAW Engineering and Tom Smith with Angas. William Davidson will be the overall full-time Quality Assurance/Quality Control (QA/QC) Monitor and John Teague will be assisting as a QA/QC monitor for the soil. Angas will be performing the as-built for the closure. Juanitta Clem briefly reviewed the key items that were discussed at the November 1st meeting and handed out the agenda for today's meeting.

II. Communications

Juanitta Clem stated that all communications for the subcontractors should go through Baker. Juanitta Clem stated that weekly construction progress meetings will be held throughout the duration of the Project and suggested the meeting be held every Tuesday at 2:00 p.m. at Trail Ridge. (Note, it is highly recommended that the Contractor and subcontractor be represented at the weekly meeting.) Juanitta Clem stated that it may not be practical to meet next Tuesday. Jeff Marshall agreed and stated that he will contact National Piping and will get back with Juanitta Clem regarding the schedule for the next meeting. Juanitta Clem stated that EMCON (design engineer for the landfill gas system expansion) cannot make it to the meeting and suggested that a meeting be scheduled either on November 26 or 27, with both EMCON and

National Piping present. (Note, subsequent to the meeting, it was decided that the initial construction meeting will be held on November 26, 2001 at 1:00 p.m. at the Trail Ridge Landfill office.)

III. Safety Issues

Juanitta Clem stated that this is a non-smoking area and hard hats will be required. Juanitta Clem stated that Baker must sign in at the office every morning when Baker is on site. Juanitta Clem asked TRLF if Jeff Marshall can sign for Baker and the sub-contractor(s). Greg Mathes had no objections. Juanitta Clem stated that Baker's crew as well as the subcontractors must attend the mandatory Waste Management Safety Training. Jimmy Purvis stated that the training is approximately an hour long and will cover the safety procedures on site. TRLF will coordinate the training schedule with Baker. Multiple training sessions may be scheduled depending on the number of attendees. Juanitta Clem reminded Baker that a copy of Baker's Safety Plan must be submitted as soon as possible. Robert Feely asked whether Baker can submit a generic Safety Plan. Juanitta Clem stated that she prefers a more project-specific safety plan since asbestos may be encountered during construction of the landfill gas system expansion.

Robert Feely introduced Bobby Townsend, Research Engineer and John Solich, Area Construction Manager, both with Baker. Robert Feely stated that Jeff Marshall will be responsible for most of the contract-related work.

IV. Equipment and Material Storage

As in the previous project, Juanitta Clem stated that the construction trailer will be located northeast of the Operations Building. With regards to equipment and material storage, the top area of the landfill may be utilized for storage. However, Baker must coordinate the location of the storage area with Jimmy Purvis. All material delivery trucks must access the site through the main gate and must use the far most side of the scale house. Greg Mathes stated that delivery trucks must untarp at the top area to avoid traffic near the scale house. William Davidson cautioned Baker regarding the speed limit at the landfill. Baker took note.

V. Contract Issues

Juanitta Clem stated that she received a letter from Baker regarding missing copies of Appendices E, G and H and provided Robert Feely with copies of the Appendices.

Robert Feely stated that Baker does not have a contract with National Piping at this time due to some issues relating to the contract. Greg Mathes asked the issues involved. Robert Feely replied that it is primarily the delay in providing the Notice to Proceed and that National Piping claims that their schedule has been impacted by 12 days (National Piping expected that a Notice to Proceed was going to be issued back in November 1, 2001). Greg Mathes stated that this matter should be between Baker and National Piping and that he was prepared to issue the Notice to Proceed today. Juanitta Clem stated that she spoke with Ashley Burnsed with Baker and had the impression that Ashley Burnsed thought that the entire landfill gas system expansion must be complete by February 10, 2002. This was discuss further and Juanitta Clem suggested that it may be best to contact Ashley Burnsed after the meeting and explain the completion schedule for the landfill gas system expansion and incremental closure.

Juanitta Clem stated that the insurance and bonds must be established as soon as possible. Robert Feely took note.

Pay Requests - Juanitta Clem stated that she received a letter from Brandon Forest regarding the Schedule of Values and that a revised Schedule of Values will not be provided. (Note, during the November 1st meeting, Juanitta Clem requested the Schedule of Values be revised since most of the items were shown as "Lump Sum" items which makes it difficult to review and quantify.) Juanitta Clem stated that if this is the case, ETM will assign their own Schedule of Values which may be more conservative. Robert Feely stated that a revised Schedule of Values will be provided. Greg Mathes asked if Robert Feely knew the nature of the letter. Robert Feely replied that he does not know and that he will discuss this with Brandon Forest.

VI. Prevention, Control and Abatement of Erosion and Water Pollution Prevention

Juanitta Clem stated that the Contractor's Certification (Pollution Prevention) must be signed by Baker and National Piping and provided to ETM as soon as possible. Juanitta Clem reminded Baker that the pollution and erosion control measures must be in place within 14 days from the Notice to Proceed and must be maintained until final acceptance of the Project. Juanitta Clem stated that Baker must maintain the stormwater pond at all times to ensure that stormwater from the construction site and existing landfill is treated to meet surface water quality standards (29 NTU above background). Testing of the pond will be required when there is a pond discharge. Robert Feely asked whether the pond has been tested. William Davidson stated that there was no discharge during the third construction increment. However, William Davidson stated that during the third construction increment, he tested the background and found the background to be 0 NTU's.

VII. Shop Drawings

Juanitta Clem stated that approved shop drawings are required prior to purchase. Eight (8) sets of approved shop drawings shall be required and any shop drawings required for return to the Contractor shall be submitted in addition to the eight sets.

VIII. Quality Assurance and Quality Control Plan

Borrow Pit Pre-Qualification - Robert Feely stated that samples were taken at the sand borrow pit and lab results should be available either tomorrow or Wednesday. Two proposed clay borrow pits will be tested today. Jeff Marshall stated that Baker will need approximately 7,500 to 8,000 cubic yards of clay. Juanitta Clem stated that LAW Engineering, if requested, can assist Baker with the clay pre-qualification.

Juanitta Clem reviewed the requirements for the top soil and stated that the top soil requirements are not as difficult compared with the clay. The borrow pit for the top soil will only be tested once unless a new source will be utilized.

Clay Test Strip - Juanitta Clem explained that the clay density will be based upon the clay test strip that will be constructed and the minimum density is 80% of Standard Proctor. The test frequency will be doubled since the total closure area is less than 5 acres. Juanitta Clem stressed that should Baker decide to construct the clay layer without the approved test results, then it will be at their own risk. Juanitta Clem stated that based on previous projects, the turnaround time for the permeability testing has been fairly quick.

Initial Cover - Juanitta Clem stated that the initial cover shall be compacted to 90% Modified Proctor. Jeff Marshall asked whether they can do a 90% of Standard Proctor. Juanitta Clem replied that it will depend on the soil that Baker will utilize. If the soil will have 30% or greater passing the No. 200 Sieve, then the Standard Proctor may be considered.

Jim Horton asked the type of soil that TRLF currently use for initial cover. John Teague replied that it is mostly sand. Jim Horton stated that it may be best to go ahead and find out the type of material they have at the borrow pit. William Davidson stated that it is mostly brown sand and a great amount of white sand. John Teague added that the material has a high fines content, approximately 11.3%.

Juanitta Clem stated that it is the responsibility of TRLF to bring the initial cover to grade (not density). The density requirement will be Baker's responsibility.

Jim Horton suggested to take proctors as soon as possible. Jeff Marshall will review the initial cover.

IX. Surveying

Juanitta Clem stated that there are a lot of survey control points outside the perimeter ditch. Juanitta Clem suggested that Baker's surveyor meet with Angas prior to any survey work. Jeff Marshall agreed. J. Clem explained that the tolerance for the subgrade is -0.10 ft. The clay layer will not be as-built. However, thickness checks will be performed. The top soil will have a tolerance of +/- 0.10 ft. and will be as-built and the constructed thickness will be checked. The drainage system will have a tolerance of +/- 0.10 ft. (at the downcomer invert).

As-Builts - Tom Smith stated that Angas will need a minimum 24-hour notice for any survey work. Juanitta Clem stated that Baker can call Angas directly at (904) 642-8550 or coordinate it with William Davidson.

X. Schedule

Juanitta Clem stated that the project schedule has been discussed several times and that February 10, 2002 is the deadline for the gas system. J. Clem asked Baker if a Project Schedule has been prepared. Jeff Marshall replied that he will have the revised Project Schedule at the meeting that will be scheduled either November 26 or 27, 2001.

Weather Delays - J. Clem stated that the conditions regarding weather delays is per the Project Specifications. Request for time extensions must be submitted on a monthly basis (since this is what DEP requires). J. Clem explained the conditions when a time extension will be granted. J. Clem stated that Sunday is not considered a normal work day. J. Clem stated that all request for time extensions must include documentation of how weather conditions delayed progress of work.

J. Clem stated that William Davidson has a rain gauge and that he normally logs the amount of rainfall daily (for ETM). J. Clem stated that since there are 2 completion schedules (gas expansion and closure), it may be best to maintain 2 logbooks

XI. Plans and Specifications

J. Clem provided copies of the construction drawings and specifications to Baker, TRLF and LAW Engineering.

cc: Chris Pearson

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E. England, P.E., C.E.O.
Douglas C. Miller, P.E., President
N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., P.S.M., V.P.

TRAIL RIDGE LANDFILL INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION CONSTRUCTION MEETING MINUTES

DATE: November 26, 2001
1:00 P.M. – 2:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Greg Mathes	Trail Ridge Landfill, Inc. (TRLF)
Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
John Solich	Baker
Mike Daniels	National Piping
Steve Martin	National Piping
Lee Barnett	National Piping
Angela Krueger	EMCON/OWT
Jim Horton	LAW Engineering (LAW)
Cliff Cosby	LAW
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Construction Schedule – Jeff Marshall and Michael Daniels provided ETM with the construction schedule for the closure and landfill gas system expansion.

Mobilization – Based upon the project schedule, Baker will complete their mobilization by December 2.

Well Installation – National Piping is scheduled to start well installation on November 27, 2001.

Preliminary Survey – Baker's survey crew is currently setting stakes for well locations. The survey will take approximately 2 to 3 days.

Borrow-Pit Pre-qualification – The testing is scheduled for tomorrow.

Test Strip – Construction of the test strip is scheduled to begin on December 9.

Construction Trailer – Jeff Marshall stated that he should have the quotes for the construction trailer by 3:00 P.M. Francis Dayao requested Baker provide the quotes to Greg Mathes.

(Subsequent to the meeting, it was decided that the construction trailer will not be purchased at this time and that Baker will proceed with providing a trailer per the contract.)

II. LANDFILL GAS SYSTEM EXPANSION

Steve Martin stated that National Piping would like to utilize a LANDTEC Pre-manufactured wellhead for the project. Angie Krueger stated the LANDTEC is acceptable since it meets the NSPS requirement and that it will be easier to install. Angie Krueger requested Steve Martin fax the shop drawing to EMCON and ETM for review. Francis Dayao requested National Piping send ETM an original shop drawing for the LANDTEC. Francis Dayao asked how the LANDTEC compare with the wellhead shown on the construction plans. Steve Martin replied that the standard LANDTEC is utilized nationwide, is more superior than the WMI standard and it makes monitoring a lot easier. Greg Mathes asked what monitoring equipment will be required for the LANDTEC. Steve Martin replied that the monitoring equipment is just the standard equipment and that no special monitoring equipment will be required.

Materials – Bentonite and HDPE pipes have been delivered to the site. Greg Mathes asked whether the pipes are pre-slotted. Bill Davidson replied that the pipes are not pre-slotted and the slots are being cut on site.

Well Schedule - Bill Davidson stated that the way he interprets the well schedule is that the depth of the slotted pipe and the solid pipe refers to the lengths of the pipes. He stated that if the depth of the solid pipe as shown on the schedule is 20 ft., it means that the length of the solid pipe is 20 ft. and if the depth of the slotted pipe is 80 ft., it means that the length of the slotted pipe is 80 ft. Angie Krueger and Steve Martin agreed that Bill's interpretation is how they interpret the well schedule.

Remote Wells – Francis Dayao stated that the Well Schedule does not include the remote wells on the eastern and western slopes. Francis stated that the location of the remote wells are per plan (aligned with the riser pipes) and the distance of the wells from the header line is per the detail shown on the construction plans. Angie Krueger stated that these wells may be moved. William Davidson stated that if possible, the remote wells be located outside the terraces due to maintenance concerns.

Well Abandonment – Francis Dayao asked Angie Krueger whether a well must be abandoned if an obstruction was encountered say at 85% of the well's design depth. Angie Kreuger stated that she has discussed with Tom Bilgri and they both agreed that 85% of the design well depth is acceptable and will not require well abandonment. Angie Krueger added that National Piping or ETM can always call EMCON when there is doubt or question regarding well abandonment.

Well Relocation – If a well has to be abandoned and relocated, Angie Krueger stated that the new location of the well can only be 10 ft. to 15 ft. from the well's original design location.

Depth of Well – William Davidson asked whether the distance from the bottom of the well from the top of the liner (as indicated on the Well Schedule) will be adjusted if the existing ground elevation is much higher than the elevation shown on the Well Schedule. Angie Krueger replied that the distance from the bottom of the well to the top of the liner should not be changed even if the well has to be extended. She stated that the elevations were estimated based on the aerial topography done on February 2001 and ground elevations have changed since then.

Well Log - William Davidson reviewed the well log requirements and asked if daily well logs will be provided to ETM. Steve Martin replied that they normally provide the well logs as part of the as-built. Steve added that the well driller keeps a daily (hand-written) log for the wells and

the well logs are submitted to National Piping. William Davidson requested that a copy of the well log be provided to him daily. National Piping acknowledged. William Davidson asked whether three (3) separate logs (reports) will be provided to ETM per the specifications. Angie Krueger replied that there will only be one well log that will be provided and a final report will be provided by National Piping with the as-built.

Design Slopes for Headers and Laterals – Francis Dayao asked if there is a minimum acceptable slope should the Contractor not be able to meet the design slope due to field conditions. A. Krueger replied that the 3% design slope must be maintained for the permanent wells. However, for the temporary wells, the design slope may be reduced to 2%. Steve Martin asked whether the design slope is much more important than the cover on top of the pipes. S. Martin stated that the tie-in points are fixed points and that adjustments may have to be made on the header pipes to achieve the design slopes for the temporary wells. S. Martin asked whether it is possible to raise the pipe (to achieve the desired slope) to about a foot from the surface and mound cover material above the pipe to protect the pipe from being damaged. S. Martin stated that the tie-in points from the drawings appear to be 4'-6' from the elevations shown on the plans. William Davidson stated that he thought it was deeper and that deeper trenches with relaxed slopes may have to be constructed. W. Davidson stated that he is concerned with construction safety when it comes to deeper trenches. The slope requirements were further discussed and it was agreed that minimum cover will be maintained to the crest and down to the tie-in.

Safety Monitor – National Piping's supervisor (currently Lee Barnett) is the designated Safety Monitor.

Asbestos Handling – Francis Dayao stressed that asbestos handling must be done in accordance with the specifications and the Safety Plan submitted to ETM.

Well Drilling – National Piping will start drilling tomorrow.

Replacement Well – Greg Mathes stated that existing Well T-2 must be replaced by February 1, 2002 and Greg wants the replacement done as part of the expansion. A. Krueger stated that T-2U will be installed as part of the expansion and that this well should replace Well T-2U. The well identification will be changed to Well T-2R.

William Davidson asked whether the landfill gas system expansion has to be operating or operational by February 10, 2002. Greg Mathes and Neil Rushing replied that the system must be operational. The landfill gas system expansion within the closure areas does not have to be operational at that time.

Jeff Marshall asked whether the headers and laterals within the closure areas will be installed into the clay and down into the refuse areas. William Davidson stated that the existing clay liner will be penetrated only at the leachate riser tie-in. The headers and laterals will be installed above the clay layer as shown on the construction drawings.

Pressure Testing – William Davidson asked whether the caps (for pressure testing) can be located outside the closure areas. A. Krueger did not have any objection. With regards to the new valves that will be located within the closure areas, A. Krueger stated that these valves may be relocated outside the closure areas for ease of construction and maintenance. The valves will be installed above the clay liner. The formula for the pressure testing was discussed and it was agreed no additional information such as temperature correction factor is needed. The test pressure is 10 psi.

Bedding Material – William Davidson asked EMCON to clarify the testing of the bedding (granular material). A. Krueger stated that EMCON does not normally require the bedding to be tested and that the density test requirement was added by ETM. Compaction and testing of the bedding material was briefly discussed. Francis Dayao stated that testing of the bedding material will still be conducted as required in the specifications.

Survey – William Davidson suggested that it may be best to determine the ground elevations where the header lines will be located (for the supplemental lines) to give Baker an idea as to how deep the cuts are going to be. Jeff Marshall stated that they may have to lay the slopes back for trenches with cuts deeper than 4'.

Cover over open trenches – William Davidson stated that all exposed wastes and trenches must be covered by the end of the workday. Greg Mathes stated that he will look into the possibility of using tarps to cover the working areas.

Working Schedule – Steve Martin asked the landfill's operating hours. Greg Mathes stated that the landfill closes at 1:00 p.m. on Saturdays and is closed on Sundays. National Piping must coordinate their work schedule with TRLF if they plan on working after the landfill has closed.

Pipe Welding – William Davidson asked how National Piping plans to weld the pipes. Lee Barnett replied that he will weld the pipe in 200-ft sections near the trenches.

Valves – W. Davidson asked EMCON to clarify the type of valves that will be utilized. A. Krueger stated that all valves are underground valves. The 4" gate valve shown on Detail 2/G5 will have a riser and the wheel will be installed the same way as the underground control valves.

Supplemental Wells – W. Davidson asked whether the existing wells such as T-1 will be abandoned. A. Krueger replied that these well will not be abandoned since the wells are still functioning and that the new wells will be installed near the existing wells to withdraw gas from the upper portions of the landfill. W. Davidson asked how the new wells will be connected to the existing system. A. Krueger replied that she will have to call Tom Bilgri and Tom can explain how these pipes will be connected. Tom Bilgri was contacted and he explained that the existing wells will remain in place and the new wells (i.e., T-1U) will be constructed to withdraw gas from the upper waste zone. According to Tom, the existing wells will have new laterals (sub-headers) just like the new wells and will be connected to the new header line and the existing laterals will be abandoned in place. Tom Bilgri explained that he had discussed this with Juanitta Clem and this was explained at the Pre-Bid meeting. A. Krueger stated that the current Well Schedule shows the supplemental wells to be almost as deep as the existing wells. A. Krueger stated that she will revise the Well Schedule and will provide the schedule to National Piping and ETM. Greg Mathes stated that Well T-2 is not functioning and asked Tom whether Well T-2U (the replacement well) must be redrilled to Well T-2's original design depth. Tom stated that it is good practice to redrill the well to its full length. Greg Mathes asked Tom when T-2 is abandoned and T-2U has been installed to replace T-2, can T-2U be connected to the new header line. Tom Bilgri stated that it will be connected to the new 6" header line.

III. INCREMENTAL CLOSURE

Initial Cover Acceptance – Since the initial cover is not ready at this time, Francis Dayao requested a letter from Baker stating the initial cover will not be accepted at this time.

Clay Pre-Qualification – Clay pre-qualification testing has been coordinated with LAW and is scheduled for this week. Currently, Baker is considering using the Gaskin Farm from the previous construction.

Contract Time Remaining – Landfill Gas System Expansion (outside closure areas): 76 days
Incremental Closure and remaining landfill gas system: 165 days.

The next meeting is scheduled for December 4, 2001 at 2:00 P.M.

cc: Attendees
Chris Pearson
Juanitta Clem
Jimmy Purvis
Johnny Teague
Tom Bilgri

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

TRAIL RIDGE LANDFILL INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION CONSTRUCTION MEETING MINUTES

DATE: December 4, 2001
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Jimmy Purvis	Trail Ridge Landfill, Inc. (TRLF)
Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Mike Daniels	National Piping
Lee Barnett	National Piping
Johnny Teague	LAW Engineering (LAW)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Well Drilling – National Piping will continue with well installation.

Header Pipe Installation – National Piping will begin trenching and header placement on December 7, 2001.

II. LANDFILL GAS SYSTEM EXPANSION

Backfill Material – Francis Dayao stated that ETM has not heard from the DEP regarding the four (4) wells with aggregatel material that did not meet the FDOT No. 3 specification.

Revised Well Schedule – F. Dayao handed out copies of the revised well schedule for the supplemental wells.

Initial Cover – William Davidson stated that LAW will be performing density tests on the initial cover on the western side slopes Jeff Marshall stated that he wanted to discuss his concerns with Juanitta Clem regarding the initial cover and the settlements of the clay and topsoil that may occur after the project has been certified.

Aggregate – F. Dayao stated that National Piping is screening the aggregate and requested a sample of the screened material be taken as soon as possible for gradation testing. F. Dayao asked whether LAW will have the gradation test result ready by tomorrow morning. J. Teague replied that he does not know what the lab is working on at this time and he cannot tell for sure if

the result will be ready by tomorrow morning. M. Daniels stated that there is approximately 260 tons of aggregate on site and that 40% of the material will be lost from screening. Approximately 50 - 60 tons of aggregate has been placed in the holes according to Michael Daniels.

Clay Pre-Qualification – J. Teague stated that LAW is testing the clay sample. Results should be ready by next week.

III. INCREMENTAL CLOSURE

Eastern Side Slopes – W. Davidson stated that TRLF may finish grading the initial cover in the next couple of days. J. Marshall stated that once the initial cover is ready for review, he will start performing thickness checks. J. Marshall stated that he cannot accept the initial cover until the issue regarding the initial cover has been resolved. W. Davidson stated that he was informed that TRLF will be using clean material (sand) on the eastern slopes.

Western Side Slopes – W. Davidson stated that he will review the area that has settled with F. Dayao after the meeting. W. Davidson stated that this area is where the final cover will have to be reconstructed due to construction of the header pipes. W. Davidson stated that he had reviewed the tie-in with Jimmy Purvis and that J. Purvis wanted the clay tie-in to be leveled.

Density Testing – W. Davidson stated that J. Teague will be performing density testing on the initial cover on the western side slopes.

Header Line Tie-in – W. Davidson stated that M. Daniels was considering starting at the tie-in. Jimmy Purvis stated that in the past, the contractor started at the high point and not at the low point. Jimmy Purvis stated that if you start at the tie-in, you may have some problems when you get to the top area where the pipe may end above the existing ground. M. Daniels stated that the tie-in points are fixed points and cannot be adjusted. M. Daniels stated that the location of the high points will be determined once the stakes has been set.

F. Dayao asked if everything is clear on the header line tie-in for the supplemental wells (i.e., T-1U). M. Daniels replied that he had submitted a change order to Baker to tie-in the existing wells to the new header line. W. Davidson stated that he thought that the tie-in of the existing wells to the new header line was discussed at the Pre-Bid Conference. J. Marshall stated that he had the impression that the wells will be abandoned. W. Davidson stated that the wells are still functioning and will remain functional and only the header line will be abandoned in place. W. Davidson stated that he believes this has been discussed at the other meetings. M. Daniels stated that the connection of the existing wells to the new header line was not shown on the construction drawings and the plans take precedence over the project specifications.

Connections – M. Daniels asked whether flanged connections or electrofusion connections are acceptable methods for connecting the pipes at the tie-in where space for the equipment may be limited. F. Dayao replied that ETM will discuss this with EMCON.

Compaction of Sand Bedding Material – W. Davidson stated that density testing of the bedding material will proceed per the specifications. W. Davidson asked National Piping their source for the sand bedding material. M. Daniels replied that he had discussed with Jimmy Purvis the possibility of getting the sand bedding material from TRLF's pit. J. Purvis explained that he needs to discuss this with Greg Mathes. Neil Rushing requested J. Purvis to get an answer as soon as possible to avoid any delay. W. Davidson explained that the material has a lot of fines and when it gets wet, the material becomes a problem. W. Davidson stated that the sand comes out of the pit wet and National Piping may have difficulty working with the material. J. Purvis

stated that he will get an answer as soon as possible and will get back with M. Daniels. Neil Rushing stated that he will get an answer from the City by tomorrow.

Header Pipe Connection along Haul Road – W. Davidson stated that all parties must agree on how the connection between the 8" and the 10" pipes will be conducted (due to the existing downcomer and rip rap) prior to the actual tie-in. W. Davidson stated that he will also discuss this with J. Clem. W. Davidson stated that if the 8" line will go over the existing downcomer, cover will be an issue. W. Davidon stated that he does not want this to become a problem when it comes time to extend the downcomers.

Downcomer D-2 – W. Davidson stated that Downcomer D-2 will be extended to Terrace T-4 and will have side drains at Terrace T-4 and asked National Piping if they are aware of this. M. Daniels agreed.

Underdrains – Baker requested clarification regarding the underdrain. F. Dayao stated that Side Slope Units 1 and 21 will not have the 6" underdrain. However, Units 2 and 22 will have the 6" underdrain. W. Davidson showed the location of the underdrains as shown on Sheet 2 of the construction drawings.

Revised Schedule of Values – J. Marshall stated that a Revised Schedule of Values will be submitted.

Pollution Prevention Plan – W. Davidson asked Baker if this is an issue since National Piping does not want to sign the Contractor's Certification. J. Marshall replied that this is not an issue.

Fabricated Fittings – M. Daniels explained that anything bigger than an 8" pipe needs to be fabricated (fittings) and asked if fabrication is acceptable. F. Dayao replied that he will contact T. Bilgri and get back with M. Daniels.

F. Dayao asked who is the Safety Monitor. National Piping stated that Lee Barnett is the Safety Monitor for the landfill gas system construction. F. Dayao requested that open well holes must be protected at all times to prevent a fire since some of the open holes are close to the active working area. National Piping took note. F. Dayao reminded National Piping that shop drawings for the Landtec wellhead and bentonite mat have not been submitted. M. Daniels asked whether the bentonite mat will be placed in the temporary wells. W. Davidson stated that all wells that will be installed will have the bentonite mat.

M. Daniels stated that National Piping is required to verify whether there is at least 2' of cover on areas where the header pipes will be located. M. Daniels stated that it is a lot quicker to excavate soil material rather than solid waste and that they plan on saving the excavated soil material that can be used for backfill. J. Purvis stated that there is a minimum of 18" of cover in the general areas where the gas system will be constructed. W. Davidson stated at least a 4' (minimum) trench will be excavated for the header lines.

Sounding Cable – M. Daniels asked the specification for the sounding cable. F. Dayao replied that the cable must be a 10 gauge insulated copper wire.

The next meeting is scheduled for December 11, 2001 at 2:00 P.M.

cc: Attendees
Chris Pearson
Greg Mathes
Juanitta Clem
Jim Horton
Tom Bilgri

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E. England, P.E., CEO
Douglas C. Miller, P.E., President
N. Hugh Mathews, P.E., Exec., V.P.
Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: December 11, 2001
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Jimmy Purvis	Trail Ridge Landfill, Inc. (TRLF)
Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Mike Daniels	National Piping
Lee Barnett	National Piping
Ken Habofslty	National Piping
Jim Horton	LAW Engineering (LAW)
Johnny Teague	LAW
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Well Drilling – National Piping will continue with well installation. Mike Daniels stated that there are seven (7) gas extraction wells remaining to be installed. The wells that have been installed to date do not have wellheads at this time. (Note: The shop drawings for the proposed wellhead (LANDTEC) and the bentonite mat, requested on November 26, 2001, have not been submitted.)

Header Pipe Installation – National Piping will begin trenching and header placement this week, weather permitting. Baker's survey crew will stake out the header line location. M. Daniels plan to start header placement at the tie-in points. If the design slope of 3% cannot be achieved due to field conditions, M. Daniels asked if a minimum slope of 2% is acceptable. J. Clem stated that the survey information must be reviewed first to determine if there are any areas where the design slope cannot be achieved. J. Clem requested that the survey information be submitted to ETM as soon as possible. Field adjustments of the header pipes from its plan location (to meet the design slope) must not be performed without approval.

II. LANDFILL GAS SYSTEM EXPANSION

Pipe Bedding Material – J. Clem stated that she was informed that National Piping was considering using the material from Maxville borrow pit and asked National Piping whether or not the required density will be obtained with this material. J. Clem stated that due to the nature of the material, she is concerned that the required density may not be readily achieved. M. Daniels stated that it will be difficult to achieve the required density on any material that is placed on solid waste. J. Clem stated that compaction of the pipe bedding material was achieved in the previous project. M. Daniels asked John Teague if he can assist National Piping after the meeting to test the material using a sample from the stockpile at the top of the landfill. J. Teague replied that he will be available to assist National Piping. J. Clem reiterated her concern regarding the proposed sand bedding material. National Piping is scheduled to begin trenching tomorrow and will require J. Teague to be on site on a full-time basis. M. Daniels stated that once the trenching equipment arrives on site, they will proceed with trenching. Jim Horton stated that J. Teague will anticipate coming to the landfill tomorrow. William Davidson stated that when the proposed bedding material is dry, it is workable, however, when the material is wet, it takes a long time for the material to dry. J. Clem asked if there is a backup source for the bedding material. M. Daniels stated that they do not have an alternate source at this time. J. Marshall stated that Baker has a pit that he will use for the underdrain sand which would be a backup source for the bedding material.

J. Clem stated that ETM has not heard from the DEP regarding the four (4) wells with aggregate material that did not meet the FDOT No. 3 specification. She stated that a permit modification may be required by the DEP.

Change Order for Well Connections – J. Clem stated that a Change Order has been submitted by Baker for the connection of the existing wells to the new header line. J. Clem stated that she thought the connection of the existing wells was included in the Bid Proposal. Mike Daniels replied that the connection of the existing wells to the new header line was not shown on the construction drawings and the construction drawings take precedence over the project specifications. J. Clem stated that ETM reviewed the well schedule and determined that the supplemental wells were constructed shallower than originally designed which will warrant a deduct. M. Daniels added that he still has seven (7) wells left to be installed. M. Daniels stated that the Pre-Construction Minutes indicated that the existing header lines will remain in place. J. Clem replied that in response to a question at the Pre-Bid Meeting, it was explained that the existing header line did not require removal. Since the existing header line was about 40' to 50' deep from existing grade, the header line must remain in place. Jeff Marshall suggested that it be acknowledged that there is a valid Change Order request and it will be dealt with towards the end of the project. Neil Rushing stated that a decision cannot be made today regarding the Change Order request. J. Clem stated that she will review the request and will get back with Baker.

Well T-2R – M. Daniels stated that Well T-2R will be located along the northern side slope and if they proceed with connecting the well to the new header line, condensate will flow back into the well. M. Daniels and Lee Barnett suggested remote well heads so condensate will flow into the header line. Juanitta Clem stated that this will be discussed with EMCON. (Note: Subsequent to the meeting, National Piping was reminded that replacement Well T-2R must be functioning by January 1, 2002 as discussed at the November 26 meeting.)

Juanitta Clem stated that all header pipes that will be constructed within the closure areas will be constructed above the clay layer (which means that the clay layer may have to be adjusted to accommodate the header).

Aggregate Testing – M. Daniels asked the reason for testing the aggregate at the site since the aggregate has already been tested at the source. J. Clem stated that since there is no chain of custody, the aggregate must be sampled on site. Testing of the remaining aggregate was discussed further. J. Clem requested that Baker coordinate with LAW sampling of the aggregate to avoid delay. Jim Horton requested that adequate notice be provided to J. Teague. M. Daniels stated that approximately 100 tons (approx. 50 CY) of aggregate is expected to be delivered.

III. INCREMENTAL CLOSURE

Weather Delays – J. Marshall asked J. Clem to explain weather delays. J. Clem explained that both the average monthly rainfall and the average number of days with rainfall events greater than ½" must be exceeded before a weather delay is allowed. For December, J. Clem explained that the average monthly rainfall is 2.80" and the average number of days with rainfall events greater that ½" is 2 days. J. Clem stated that Sundays do not count since they are not normal workdays. However, if it rains on a Sunday and impacts Monday, then Monday will count. When requesting a contract time extension, Baker must also provide a description of how the weather delayed progress of work. All request for contract time extensions must be submitted by Baker to ETM and ETM will submit the request to the City and DEP. J. Clem asked Baker to maintain a rainfall log on a daily basis and compare it with W. Davidson's log. The rainfall log must include the work that was impacted. W. Davidson stated that he normally reads his gauge at 8:00 A.M.

J. Clem stated that ETM has received letters (dated November 30, December 6 and 10) from Baker requesting clarification regarding the initial cover, density requirements on the initial cover and final grade of topsoil (settlement after certification).

Initial Cover and Density – In response to Baker's letters dated November 30 and December 6, J. Clem stated that she requested LAW perform field density testing of the existing initial cover on the western side slopes and the results were sporadic. With these results, J. Clem stated that there is no alternative but for TRLF to remove and replace approximately 6" of the initial cover. Jimmy Purvis stated that they tried compacting an area with a roller and the density results were still sporadic after 10 passes with the roller. J. Clem stated that Greg Mathes will be back tomorrow and she will discuss this with him. J. Clem requested Baker delineate a test strip location immediately and TRLF will proceed with the initial cover replacement in that area. TRLF agreed to remove and replace the initial cover so Baker can get started with the test strip. Baker agreed to construct the test strip on Side Slope Unit 22, near the northern limits. Jim Horton reminded Baker that the density for the project will be based upon the results of the test strip. J. Marshall asked whether the contract time for the incremental closure may be extended. J. Clem stated that she notified the DEP regarding the start of the incremental closure and that she will review the notification.

Final Grade of Topsoil – In response to Baker's letter dated December 6 regarding the topsoil, J. Clem explained that the top of the initial cover will be as-built, the thickness of both layers of the clay will be verified and the top soil will be checked for thickness and as-built. If settlement occurs after the initial cover has been as-built and all the thickness have been verified, J. Clem explained that in the past, the DEP was informed of the settlement and the closure was accepted. J. Clem explained that the uppermost side slope units may have settlements since the waste has been recently placed.

Clay Tie-in – J. Marshall stated that the existing final cover at the western slopes (uppermost side slope unit) has settled considerably at the tie-in and may result in a "belly" after closure construction. J. Clem referred Baker to the tie-in detail shown on Drawing No. 10 of the construction plans. J. Clem explained that there will be a 10' transitional area between the

existing final cover and the current closure. For the western side slope, the 10' transitional area will be 10' south of the clay tie-in. J. Purvis requested they review the tie-in in the field after the meeting. J. Purvis requested the depth of the existing gas header pipe within the areas with final cover. J. Clem replied that all existing gas header pipes are located above the clay layer and that all gas header pipes and laterals that will be constructed within the closure areas will be constructed above the clay layer.

Clay Pre-Qualification – LAW reviewed the results of the clay with Baker and it was determined where the clay will be excavated within the pit.

The next meeting is scheduled for December 18, 2001 at 2:00 P.M.

cc: Attendees
Chris Pearson
Greg Mathes
Tom Bilgri

England-Thims & Miller, Inc.
ENGINEERS • PLANNERS • SURVEYORS • LANDSCAPE ARCHITECTS

Principals
James E. England, P.E., CEO
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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: December 18, 2001
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Ken Halofsky	National Piping
Jim Horton	LAW Engineering (LAW)
Johnny Teague	LAW
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Header Pipe Installation - National Piping will continue installation of the header pipe.

II. LANDFILL GAS SYSTEM EXPANSION

Wells – Juanitta Clem requested the status of well construction. Jeff Marshall replied that all wells have been drilled and backfilled. Juanitta Clem requested all well construction logs be submitted to ETM before National Piping leaves the site on Thursday, December 20 for the holidays. William Davidson stated that there are at least four well logs that have not been submitted. Juanitta Clem stated that William Davidson will review all well construction logs and they need to be completed this week.

Header Pipe Installation – Juanitta Clem requested the status on header pipe installation. Ken Halofsky replied that the southern header pipe replacement has been installed. Juanitta Clem asked whether the header pipe replacement has been connected to the existing header line. Ken Halfosky replied that the header pipe will be pressure tested this morning and if it passes the test, the tie-in should be made today. Ken Halofsky stated that National Piping will continue with installation of the northern header pipe replacement and will try to finish it by Thursday.

Juanitta Clem stated that Well T-2R must be operational by January 1, 2002. Ken Halofsky replied he will have the well connected and operational before they leave on December 20, 2001. Juanitta Clem stated that at the last meeting, it was discussed that the elevation of Well T-2R is lower than the elevation of the header pipe at the tie-in. ETM discussed this with TRLF and based upon the discussion, it was agreed that TRLF will build up the area around the well rather than construct a remote well. William Davidson stated that TRLF plans to have the area built up by Friday. National Piping will have the lateral connected to the header line before December 20, 2001. Juanitta Clem stated that TRLF can work on this area after National Piping leaves the site on Thursday and requested William Davidson coordinate the work with Jimmy Purvis.

Wellhead Shop Drawing - Francis Dayao stated that EMCON has approved the proposed LANDTEC wellhead and 2-inch wellheads will be used on all of the wells. Juanitta Clem requested Francis Dayao call EMCON and have EMCON send an original approved copy of that shop drawing. Juanitta Clem requested a copy of the approved shop drawing be provided to Ken Halofsky today, so National Piping can order the wellheads. (Note: A copy of the approved wellhead was provided to Ken Halofsky after the meeting.)

Aggregate - Juanitta Clem stated that ETM has not received a response from the DEP regarding the four wells with aggregate that did not meet the FDOT #3 specification.

Header Pipe Layout – Juanitta Clem asked whether National Piping has done any header pipe layout for the remaining header lines to determine what needs to be done. Jeff Marshall replied that he received a letter from Mike Daniels regarding the six-inch header for Wells T-22, T-23, T-24 and T-26. Jeff Marshall read the letter which included proposals to eliminate the piping between wells T-22 and T-23 until sufficient material is placed and placing the 6" header line on top of the ground as a temporary line (where the required slope cannot be achieved until sufficient fill is placed in that area). Juanitta Clem asked whether the required 3% slope will be achieved in the remaining header lines. Jeff Marshall stated that he believes that those are the only lines that are of concern to National Piping and that he is assuming that everything else will be field fit. Juanitta Clem asked whether an actual survey of the header pipe route was conducted. Jeff Marshall replied that Baker conducted a survey for National Piping. Juanitta Clem stated that the survey information should be reviewed to determine if other header lines will meet the 3% slope. Jeff Marshall stated that only the two western header lines have been surveyed so far. Juanitta Clem stated that the header lines located east of the haul road must also be reviewed. Juanitta Clem reviewed the letter from National Piping and asked whether or not Mike Daniels meant the 6" line between T-22 and T-23, since T-26 and T-22 are not located on the same side of the haul road. National Piping's proposal was reviewed and Juanitta Clem stated that she will discuss this with EMCON and will get back with Baker and National Piping.

Change Order Request – Juanitta Clem expressed her dissatisfaction with the Change Order request and stated that she finds it ridiculous to design a replacement header line and not connect the existing wells to the new header line. Juanitta Clem stated that it is hard to believe that the cost of connecting each well to the header line is over $1000. Juanitta Clem stated that ETM estimated the cost of connecting all seven wells to the header line at less than $5000. Jeff Marshall stated he has a cost breakdown that he can review with Juanitta Clem. Jeff Marshall stated that it will take 1 hour per tie in and that the cost is mainly due to labor that includes the loader, tractor, welder, etc. The total cost was calculated to be $998 per well plus a 10% mark-up by Baker. Jeff Marshall stated that Juanitta Clem may send a letter to Baker indicating that she does not agree with the cost of connecting the wells and Baker will forward the letter to National Piping. Although a Change Order request has been submitted, Jeff Marshall stated that National Piping has not stopped connecting the existing wells to the replacement header line. Neil Rushing asked Juanitta Clem whether she feels that the engineering directions are present in the specifications and the drawings. Juanitta Clem replied that since the gas systen expansion was

designed by EMCON, she had to ask Tom Bilgri whether it is a legitimate Change Order request. Juanitta Clem stated that the response from EMCON was that there was nothing that specifically states that the wells will be connected. The Change Order request was discussed further and Juanitta Clem stated that Baker must include a deduct in the Change Order for well depth that was not installed. Jeff Marshall stated that he believes that National Piping's response to the "deduct" is that the materials for the wells may be on site and have been slotted. Juanitta Clem stated that she believes that it is fair to pay for the materials on site that cannot be returned. William Davidson stated that he does not believe that there is extra pipe on site. Juanitta Clem added that extra materials must be verified before it can be invoiced.

Haul Road Crossing (East of T-25) – Juanitta Clem stated that Baker may cross the existing downcomer pipe or where the future downcomer pipe will be located to get the header line across the haul road. Juanitta Clem stated that if Baker decides to install the header pipe where the future downcomer will be located, it must be installed to a depth that will accommodate the future downcomer. William Davidson stated that EMCON does not have any preference.

Jeff Marshall stated that National Piping expressed their concern to Baker regarding their additional expense incurred to tie-in the northernmost replacement header line. Jeff Marshall stated that the cost was for the additional piping (approximately 100 LF). William Davidson stated that at one of the meetings, Mike Daniels stated that he would prefer additional piping rather than excavate a 30-foot excavation for the tie-in. Jeff Marshall stated that the actual tie-in was approximately 13 feet deep. Juanitta Clem stated that this project is a lump sum project and not a time and materials project. Juanitta Clem stated that everyone was informed at the Pre-Bid Conference that the survey was not new and opportunities were given to review the site. Juanitta Clem stated that Baker needs to make sure their sub-contractor understands that the project is a lump sum project.

III. INCREMENTAL CLOSURE

Test Strip – Juanitta Clem requested the status of the test strip. Jeff Marshall replied that TRLF started replacing the initial cover. Baker plans to roll the initial cover this week. Jeff Marshall stated that the test strip may not be conducted before the Christmas break. Juanitta Clem stated that if by chance, Baker decides to construct the test strip, adequate notice must be provided to ETM so they coordinate the survey schedule.

Clay Borrow Pit – LAW is close to having all the data for the borrow pit pre-qualification. Jim Horton stated that the Clay Pre-Qualification form must be signed by Baker. Jim Horton stated that the clay pit will not be monitored on a full-time basis. Juanitta Clem agreed that all of the clay testing is done on site and not at the pit. Jim Horton added that the pit will be visited by LAW periodically. Juanitta Clem stated that William Davidson will occasionally visit the clay pit as well.

Letter to DEP – Juanitta Clem provided a copy of a letter from ETM to DEP regarding the final waste placement and the construction schedule for the incremental closure.

Jeff Marshall provided a copy of the construction schedule for January 2002.

The next meeting is scheduled for January 8 at 2:00 P.M.

cc: Attendees
Chris Pearson
Greg Mathes
Jimmy Purvis
Michael Daniels
Tom Bilgri

England-Thims & Miller, Inc.
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Joseph A. Tarver, Exec., V.P.
Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., P.S.M., V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: January 8, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Ken Hagofsky	National Piping
Mike Daniels	National Piping
Steve Martin	National Piping
Jim Horton	LAW Engineering (LAW)
Johnny Teague	LAW
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Header Pipe Installation - National Piping will continue installation of the header pipe.

Test Strip – Baker will continue preparing the area where the clay test strip will be constructed.

II. LANDFILL GAS SYSTEM EXPANSION

Header Line Tie-in (West) – Juanitta Clem stated that there were questions regarding the 6" header line tie-in from Well T-22 to the 12" header line. Juanitta Clem stated that she had discussed the tie-in with EMCON and it was decided that the 6" header line will tie-in to the 12" header line north and within the existing closure area (outside the proposed closure area). Juanitta Clem stated that at Baker's discretion, National Piping may proceed with the tie-in since there is existing final cover within this area. Juanitta Clem explained that the southern 8" header line will tie-in to the 12" header line south of the proposed closure area. By moving the header line to the south of the proposed closure area, Juanitta Clem stated that the design slope of 3% can be achieved.

Header Line Tie-in (East) – Juanitta Clem stated that the 8" header line tie-in to the 22" header line will be south and outside of the proposed closure area. William Davidson stated that the terrace crossing will be typical (as shown on Detail C/G6 of Sheet G6). Juanitta Clem asked whether National Piping has determined the invert elevation of the 22" header pipe at the tie-in. Ken Hagofsky replied that the elevation has not been determined. Juanitta Clem stated that ETM calculated the invert elevation of the 22" header line to be El. 193.5 ±. William Davidson stated that this elevation is approximate and the National Piping should determine the elevation. The location of the high point on the 6" header line west of the haul road was discussed. Juanitta Clem stated that the high point is not a fixed point and may be shifted in order to achieve the design slope. William Davidson cautioned National Piping that shifting the high point either to the east or west will affect the depth of excavation of the trench and the cover on the header pipe and should be reviewed closely.

Juanitta Clem stated that there may be instances where header pipes will come out of the ground. Juanitta Clem stated this will be acceptable only if the pipe can be covered with a maximum of 18" of cover. Anything greater than 18" is not acceptable.

The connection of the 6" header line from Well T-29 to the 22" header line was also discussed. National Piping has the option to either connect to the existing 6" lateral from Well T-29 or tie-in to the existing 22" header line. Juanitta Clem stated that if National Piping decides to tie-in to the 22" header line, the existing areas with final cover that will be disturbed, including the terrace, must be repaired. Mike Daniels stated that they will tie-in to the 6" lateral. Mike Daniels asked whether the 6" lateral is on top of the clay. Juanitta Clem replied that the 6" lateral was required to be constructed on top of the clay layer.

Since the gas system within the final closure areas will not be constructed until the clay layer has been constructed, Juanitta Clem stated that she spoke with EMCON and they have decided that the new header lines (outside the limits of closure construction) must be temporarily capped approximately 50' from the closure areas. Juanitta Clem stated that a flange and gate valve should be installed on each end of the header pipe. Juanitta Clem stated that a turndown and a gravel pit should be constructed in order to properly drain the gas condensate. Mike Daniels stated that he does not think a lot of condensate will be generated from the time the ends are capped and the actual tie-in. Mike Daniels estimated that the actual tie-in of the header pipes will occur within a week after the ends have been capped. Juanitta Clem stated that it may take longer than a week since the clay test strip has not been constructed. Whether or not a turndown is necessary will be re-evaluated as the project progresses. Upon discussion, it was agreed that the gate valves will be removed and installed at the plan location during the actual tie-in to the 12" and 22" header pipes.

Juanitta Clem stated that the gas system outside the final closure areas must be completed and operational by February 10, 2002. Mike Daniels asked whether the wells located within the final closure areas must be operational by February 10, 2002. Juanitta Clem replied the wells within the final closure areas do not have to be operational by February 10, 2002.

Existing Laterals – Juanitta Clem stated that the laterals installed by TRLF that were broken off by National Piping during construction of the new header lines must be properly capped. Since ETM does not know where the laterals tie into the headers, Juanitta Clem requested that William Davidson discuss this with TRLF and locate the tie-ins. Juanitta Clem expressed concern that if the laterals are not capped, air will be pulled into the system.

GCL – Juanitta Clem stated that the placement location of the GCL for the permanent wells is clearly showed on the construction drawings. However, it is unclear for the temporary wells. Juanitta Clem stated that she will discuss the location of the GCL on the temporary wells with

EMCON. Steve Martin stated that it is not normal procedure to install the GCL on temporary wells.

Mike Daniels requested the status on the four wells. Juanitta Clem stated that ETM has not received a response from the DEP regarding the four wells or the final waste placement and the construction schedule. Juanitta Clem stated that she will contact Mary Nogas (DEP Solid Waste Section Supervisor).

III. INCREMENTAL CLOSURE

Clay Borrow Pit – Jim Horton provided Baker with the Clay Pre-Qualification form for signature. Jim Horton stated that the percent compaction of the three clay samples were 93%, 91% and 94%. Further, the permeability test results were better that what is required in the specifications. Jim Horton stated that the clay material is encouraging, even with percent fines of 48% and 49%. Jeff Marshall stated that the area towards the east end of the site appeared to be more favorable. (Note: After the meeting, LAW provided ETM with the Clay Borrow Source Pre-Qualification.)

Test Strip – Jeff Marshall stated that Baker is planning on constructing the clay test strip on Monday, January 14, 2002. William Davidson stated that he will coordinate the survey schedule and asked Baker whether the initial cover on the entire western closure area will be ready for as-builts. Jeff Marshall replied that the test strip and some areas will be ready but not the entire side slope. William Davidson stated that he will coordinate the as-builts. Jeff Marshall stated that there are some areas on the western side slopes where solid waste has been mixed with the initial cover. Juanitta Clem agreed to review the area in the field after the meeting. (Note: Subsequent to the meeting, the area where solid waste was observed was reviewed and it was decided that the extent of the unacceptable solid waste/initial cover mix must be determined. Once the limits have been determined, TRLF must remove the solid waste and replace it with clean material.)

Shop Drawings – Approved shop drawings for the wellhead and bentonite mat were provided to National Piping and Baker after the meeting.

The next meeting is scheduled for January 15 at 2:00 P.M.

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Tom Bilgri

England-Thims & Miller, Inc.
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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: January 15, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Ken Hagofsky	National Piping
Cliff Cosby	LAW Engineering (LAW)
Johnny Teague	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Header Pipe Installation - National Piping will continue installation of the header pipe.

Test Strip – Construction of the clay test strip is scheduled for Monday, January 21, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Header Line Construction – Jeff Hagofsky stated the all header lines east of the haul road have been constructed. The replacement header lines have been connected to the existing header line at the haul road and the two southernmost header lines, east of the haul road have been temporarily capped. A 150-ft section of the 6" header line (in the vicinity of Well T-23) west of the haul road has been constructed. National Piping will continue construction of the western header line this week. Juanitta Clem requested the completion schedule for the gas system outside of the closure areas. Ken Hagofsky replied that the system should be complete by next week, weather permitting. Juanitta Clem stated that gate valves and turn downs (with gravel drain) must be constructed at the termination points of the header lines.

Jeff Hogofsky stated that National Piping will tie-in the northern 6" header line to the existing 12" header. Juanitta Clem stated the clay test strip must be complete and the density set (based upon the test strip), prior to reconstruction of the existing final cover. Juanitta Clem stated weather permitting, it would be preferable for Baker to proceed with the construction of the clay test strip on Friday, January 18, so LAW will have preliminary test results by next Tuesday. Jeff Marshall inquired about the clay specification for the reconstruction of the existing final cover. Juanitta Clem replied the clay

will have the same specifications as the clay for the closure construction. Juanitta Clem asked whether National Piping plans to extend the 12" header (on the west slope) to the limits of closure construction. Ken Hagofsky replied that they plan to extend the 12" header. Jeff Marshall asked whether the 12" pipe must be placed on top of the clay layer. Juanitta Clem explained that the header pipe must have 1.5 feet of cover and since the existing clay layer is approximately 2 feet lower than the clay layer that will be constructed, a transitional area (approximately 10 feet) must be constructed. Juanitta Clem explained that if the header pipe is not laid on top of the clay layer, more vegetative cover will be required. Juanitta Clem agreed with Ken Hagofsky that the 12" pipe must be extended approximately 35 feet from the existing flange prior to the Tee fitting for the 6" header tie-in.

GCL Placement – Juanitta Clem state that for the temporary wells, the GCL should be placed 18" below final grade and for the permanent wells, placement of the GCL must be per the design detail on the construction plans.

Wellhead Hose – Juanitta Clem stated that upon review of the proposed hose, it appeared the hose is not consistent with the hose currently in use. Juanitta Clem asked whether the hose was supplied with the Landtec wellhead. Ken Hagofsky stated that he believes the hose came from Landtec. Juanitta Clem stated that she will review the specification for the hose and the shop drawing from the previous project.

Juanitta Clem stated that the DEP has not reviewed the four wells with the aggregate that did not meet the project specifications. Juanitta Clem stated that a permit modification may be required by the DEP.

As-Builts – Jeff Marshall stated that Baker is planning to as-built the gas system next week. Juanitta Clem stated that the as-built of the system outside of the final closure areas must be complete a week before the February 10, 2002 deadline. It was agreed that EMCON needs to review the gas system now and ETM will contact EMCON. Ken Hagofsky asked whether the wells will be opened by National Piping after the header line is complete and tied to the existing gas system. Juanitta Clem replied that she would discuss this with TRLF. (Note: Subsequent to the meeting, it was determined that the gas system operator for TRLF will open the wells and calibrate the system the first week of February.

III. INCREMENTAL CLOSURE

Jeff Marshall stated that TRLF removed the isolated solid waste and replaced it with clean soil on the western slope. Baker has been grading the side slopes. Upon discussion, it was agreed that Baker will submit a memo to Neil Rushing indicating the number of days the construction was delayed due to the removal of the solid waste on the western slope. Neil Rushing requested that he be informed if Baker believes that TRLF has delayed construction so he can inform Greg Mathes.

Regarding the construction schedule, Juanitta Clem stated that Mary Nogas of the DEP has not reviewed the letter from ETM but she agrees that the construction schedule will be based upon the date of final waste placement.

The next meeting is scheduled for January 22 at 2:00 P.M.

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Michael Daniels
Jim Horton
Tom Bilgri

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Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: January 22, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Ken Hagofsky	National Piping
Mike Daniels	National Piping
Johnny Teague	LAW Engineering (LAW)
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Header Pipe Installation - National Piping will continue installation of the header pipe and plans to complete the work outside the closure areas this week.

Test Strip – Construction of the clay test strip is scheduled for Monday, January 28, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Tom Bilgri of EMCON is scheduled to review the landfill gas system expansion on Tuesday, January 29, 2002. (Note: Subsequent to the meeting, Tom Bilgri's schedule to review the gas system has been changed to Wednesday, January 30, 2002.) William Davidson will review the gas system before National Piping demobilizes from the site. Ken Hagofsky will leave on Friday, January 25 and will return on January 29, 2002. Lee Barnett will remain on site.

Landtec Wellhead – Juanitta Clem stated that comments from TRLF regarding the Landtec wellheads has been sent to EMCON for review and comment. Juanitta Clem stated the issues regarding the wellheads and hose must be resolved as quickly as possible to avoid delaying the project. Juanitta Clem stated that TRLF is concerned about the hose not meeting the specification (and not an approved equal) and the location of the valve on the wellhead. Michael Daniels briefly discussed the advantages of the Landtec wellheads and stated he is willing to respond to any comments relating to the Landtec wellhead.

Tie-in at North Location - Juanitta Clem stated that the tie-in to the existing 12" header line is not possible since construction of the clay test strip has been delayed due to weather. Juanitta Clem stated ETM will monitor the condensate after the turndown and gravel trench have been constructed at the termination points of the header pipes.

Calibration – Juanitta Clem stated that the gas system will be calibrated the first week in February by the gas system operator. Juanitta Clem stated National Piping must leave all valves in the closed position.

Certification - Neil Rushing inquired whether the gas system (outside the closure areas) must be operational by February 10, 2002. Juanitta Clem replied that the system must be operational and RESD will be notified. Juanitta Clem stated the as-built of the gas system must be submitted a week before February 10, 2002.

Michael Daniels agreed that a portion of the 8" header pipe must be adjusted to provide a minimum 2.5% slope. Juanitta Clem asked whether all pipes are covered. William Davidson replied that there are some areas where additional cover is required. Juanitta Clem requested that William Davidson inform TRLF where additional cover material is needed.

Temperature Gauge – Juanitta Clem asked whether a temperature gauge will be installed on each wellhead. Michael Daniels stated that a temperature gauge will be installed on each wellhead and presented the temperature gauge. Juanitta Clem stated that for monitoring and per the construction drawings, a port must be installed on each side of the valve. Michael Daniels stated that National Piping will install a port on each side of the valve.

Juanitta Clem stated that the DEP has not reviewed the four wells with the aggregate that did not meet the project specifications.

III. INCREMENTAL CLOSURE

Clay Test Strip – Juanitta Clem expressed concern regarding the delay in constructing the test strip and how this impacts the overall construction schedule. Juanitta Clem stated that she reviewed the west slopes and found the top slope to be drier. A discussion ensued about the differences of cover material and water retention in the swales. Juanitta Clem suggested Baker construct a temporary drainage system at the downcomer location using clay. Jeff Marshall stated that silt in the swale will still be a problem. Juanitta Clem stated the project (including the gas system within the final closure areas) will not progress without the test strip and every effort must be made to construct the test strip.

Juanitta Clem stated that ETM will contact the DEP regarding the construction schedule. Juanitta Clem stated that although she had discussed this with Mary Nogas and Ms. Nogas agreed with the new closure completion schedule, a formal response from the DEP has not been received. Neil Rushing asked whether this will require a Change Order. Juanitta Clem replied that a completion date is specified on the agreement and therefore, a Change Order is necessary between TRLF and Baker construction.

Trench Safety – Juanitta Clem stressed the importance of adhering to the Safety Plan (and all applicable regulations) regarding trench excavation. Juanitta Clem stated due to the existing conditions at the site (including the presence of methane gas in open trenches), personnel safety must be a priority.

The next meeting is scheduled for January 29 at 2:00 P.M.

Contract Time Used: 72 days
Contract Time Remaining:
Gas System Expansion (excluding Closure Areas): 19 days (80-85% Complete)
Incremental Closure: 108 days (not including the time extension since DEP approval is pending.) (5-10% complete)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
Cliff Cosby
Tom Bilgri

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Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: January 29, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Mike Daniels	National Piping
Johnny Teague	LAW Engineering (LAW)
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Header Pipe Installation - National Piping will continue installation of the remaining header pipe outside the closure areas.

Test Strip – Construction of the clay test strip has been rescheduled for Monday, February 4, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Termination Points – National Piping will pressure test the remaining header pipes prior, to installing the temporary termination assembly.

The adjustment of a portion of the 8" header line (to provide the proper slope) will be performed prior to the tie-in to the 22" header pipe. Juanitta Clem stated that this will be included on the punch list for the February 10 deadline and requested the pipe be covered.

William Davidson stated that the wellheads, flex hose (IT-6000), temperature gauges and surface seals must be installed. Mike Daniels stated that it will take approximately 8 to 10 weeks to receive the IT-6000 flex hose and asked whether National Piping can temporarily install the Kanaflex hose (to make the gas system operational.) National Piping agreed to install the Kanaflex hose and replace it with the IT-6000 flex hose at no additional cost. William Davidson cautioned National Piping regarding the length of the hose since the separation between the wellhead and the riser varies. Mike Daniels stated that National Piping will review each well to determine the length of the hose.

Juanitta Clem stated that Tom Bilgri is scheduled to review the gas system tomorrow and she hopes the system outside the closure areas will be operational by the end of the week.

TRLF will provide additional cover material where needed. William Davidson will coordinate this with TRLF.

As-Built – Baker's surveyor is as-builting the gas system outside the closure areas. Juanitta Clem stated that the as-built must be received by the end of next week.

Rain Delays – Juanitta Clem stated that rain delays will not apply to the gas system, since the gas system work has not been delayed.

Calibration – The landfill gas system operator is scheduled to calibrate the system next week. Juanitta Clem stated that this will provide National Piping time to complete the system (including installation of the valve, turndowns and construction of a gravel drain at termination points.)

Change Order Request No. 1 – Juanitta Clem reviewed the supplemental information for the change order which addresses the connection of the existing wells to the replacement header line. Juanitta Clem stated that ETM compared the estimate with the actual costs and came up with an additional cost of $2978.25. (Note: This was adjusted subsequent to the meeting to approximately $3,347 due to an error in the number of connections.)

Change Order Request No. 2 – Juanitta Clem stated that ETM reviewed the cost to install the additional valve on the header side at each well location. Juanitta Clem stated that ETM calculated the actual cost of the well installations based upon the schedule of values and the well logs and revised design well schedule. With a straight comparison, ETM had calculated a deduct for the 56 feet of well that was not constructed. Taking into account the existing ground elevation, ETM calculated a deduct of 104 feet. Juanitta Clem stated that some of the wells were constructed deeper at National Piping's discretion. Juanitta Clem suggested that the average of the 56 feet and 104 feet be used to determine the deduct. Mike Daniels agreed to review ETM's calculations and compare it with his calculations and will get back with Juanitta Clem. (Note: Subsequent to the meeting, it has been decided that the additional valve in Change Order No. 2 will not be installed.)

III. INCREMENTAL CLOSURE

Rain Delays – Jeff Marshall stated that the project has been delayed a total of 17 days due to weather for the month of January. Jeff Marshall stated that this includes January 2 – January 4 when Baker returned to the site after the holidays and could not get equipment on the slope due to wet conditions. Upon discussion, it was agreed that William Davidson and Jeff Marshall will review their logs on a daily basis if a delay is requested. Neil Rushing stated that rain delays cannot be given on days unless DEP considers them a rain delay.

The next meeting is scheduled for February 5, 2002 at 2:00 P.M.

Contract Time Used: 79 days
Contract Time Remaining:
Gas System Expansion (excluding Closure Areas): 12 days (80-85% Complete)
Incremental Closure: 101 days (not including the time extension since DEP approval is pending.) (5-10% complete)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
Cliff Cosby
Ken Hagofsky
Tom Bilgri

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Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: February 5, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Jim Horton	LAW Engineering (LAW)
Johnny Teague	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Test Strip – Baker will continue constructing the clay test strip. The first lift of clay should be complete by Wednesday, weather permitting.

Gas System – National Piping is reconstructing the check dams west of the haul road and will continue addressing the Punch List.

II. INCREMENTAL CLOSURE

Clay Test Strip - The construction of the clay test strip was discussed. Since the clay test strip area is twice the required dimension, Juanitta Clem suggested the test strip be divided in half. Juanitta Clem suggested that half the test strip area be compacted with the dozer only and the half, compacted with the dozer and a roller. Juanitta Clem stated that if the first test strip meets the project specifications for density and permeability, construction of the clay layer would proceed faster. Juanitta Clem stated that the second lift of the clay layer must be constructed and meet the project specifications in order for the test strip to be complete. Juanitta Clem stated that five samples per lift are required on each test strip for a total of ten samples. Jim Horton stated that LAW is capable of

running eight samples simultaneously and suggested that 5 samples be taken from the test strip constructed with the dozer and 3 samples from the other test strip. Jeff Marshall stated that he would like to construct the two clay test strips. (Note: Subsequent to the meeting, the entire clay test strip was constructed with the dozer and roller, due to construction difficulties with the dozer alone.)

Moisture Content – Jim Horton stated that over-mixing the clay will reduce the moisture content and may create problems during construction. Jim Horton requested that Johnny Teague check the clay stockpile for moisture content, prior to Baker placing the clay on the side slopes.

Drainage - The drainage from the western side slopes was discussed. Juanitta Clem suggested that Baker undercut for the downcomers and then backfill with clay to create a clay-lined drainage flume. Jeff Marshall believes that silt will still be a problem even with a clay flume at the proposed downcomer location.

Final Cover Reconstruction – Juanitta Clem reminded everyone that the clay test strip must be acceptable and the project density must be set, before any final cover reconstruction can be performed.

III. LANDFILL GAS SYSTEM EXPANSION

Change Order – Jeff Marshall stated that Baker has not heard from National Piping regarding the change order for the connection of the existing wells to the new header line.

Well Construction Logs – The project specification require that the well construction logs be certified and it was agreed that the well construction logs will be signed by National Piping.

As-Built Drawing – Jeff Marshall stated that as-built of the landfill gas system (outside the final closure areas) is not complete.

Juanitta Clem stated that DEP has not responded to the letter regarding the four (4) wells with aggregate that did not meet the specification.

The next meeting is scheduled for February 12, 2002 at 2:00 P.M.

Contract Time Used: 86 days
Contract Time Remaining:
Gas System Expansion (excluding Closure Areas): 5 days (95% Complete)
Incremental Closure: 94 days (not including the time extension since DEP approval is pending.) (10% complete)

cc: Attendees

Greg Mathes	Mike Daniels
Jimmy Purvis	Ken Hagofsky
Chris Pearson	Tom Bilgri
Cliff Cosby	

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION CONSTRUCTION MEETING MINUTES

DATE: February 12, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Mike Daniels	National Piping
Stephen Martin	National Piping
Johnny Teague	LAW Engineering (LAW)
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Test Strip – Baker will continue construction of the clay test strip.

Initial Cover – Baker will continue grading the initial cover on Side Slope Units 21, 22 and 23.

Gas System – National Piping will continue addressing the Punch List.

II. LANDFILL GAS SYSTEM EXPANSION

Certification to RESD – Juanitta Clem stated that EMCON has submitted the certification to RESD for the landfill gas system outside the closure areas.

As-Built – A draft of the as-built is expected on February 14, 2002.

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Punch List – The majority of the items have been addressed. National Piping will submit a shop drawing for a proposed equal for the gas hose (Series LFG44 Silicone Landfill Gas Hose).

Gas Pipeline Markers – Juanitta Clem requested that temporary gas pipeline markers be installed. Jeff Marshall stated that warning posts will be temporarily installed at this time.

Juanitta Clem stated that DEP has not formally responded to the letter regarding the four wells with aggregate that did not meet the project specification.

III. INCREMENTAL CLOSURE

Clay Test Strip - John Teague stated that the clay density ranges from 88% – 92% and the permeability ranges from 1.8×10^{-8} to 1.9×10^{-9} cm/sec.

Clay Thickness – Juanitta Clem stated that the thickness of the 1st lift of clay exceeded the minimum 6 inch thickness and requested Baker to trim the clay layer to 8 inches or less (6 inches minimum). Baker agreed to trim off the clay layer to approximately 8" and John Teague will be taking additional samples to ensure that the clay layer meets the project specifications.

Downcomer – Jeff Marshall stated that construction of the downcomer on the western slope is scheduled to begin on February 21, 2002 and the construction of the underlying clay layer will proceed from the bottom to the top. Juanitta Clem stated the shop drawing for the downcomer pipes must be submitted to ETM.

Mike Daniels asked whether National Piping can use SDR 17 pipe for the downcomer. Juanitta Clem replied that she does not object if National Piping prefers to use SDR 17 in lieu of SDR 32.5 pipe.

Time Extension – Juanitta Clem stated that the DEP has not responded to the letter regarding the time extension.

Change Order Request – Juanitta Clem suggested that the change order request be held in abeyance until the project is nearing completion.

The next meeting is scheduled for February 19, 2002 at 2:00 P.M.

Contract Time Used: 93 days
Contract Time Remaining:
Gas System Expansion (85% complete) and Incremental Closure (15% complete): 87 days (not including the time extension since DEP approval is pending.)

cc: Attendees

Greg Mathes	Jim Horton
Jimmy Purvis	Ken Hagofsky
Chris Pearson	Tom Bilgri

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Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: February 19, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Jim Horton	LAW Engineering (LAW)
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Clay Layer – Construction of the first lift of clay on Side Slope Units 21, 22 and 23 is scheduled for this week.

II. INCREMENTAL CLOSURE

As-Builts – Juanitta Clem requested the status of the as-built drawing. Jeff Marshall replied the as-built should be received by ETM (via electronic mail) today.

Flex Hose – National Piping has proposed an "equal" hose and ETM requested a sample. William Davidson will present the proposed hose (expected to be received today) to TRLF for review and comment.

Downcomer Shop Drawing – Juanitta Clem stated the shop drawing for the downcomer pipe has not been submitted. Jeff Marshall stated that he will follow up on the shop drawing with National Piping when they return to the site next week.

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Juanitta Clem stated that DEP has not responded to the time extension request and the four wells with aggregate that did not meet the project specification.

Clay Test Strip – Juanitta Clem stated that a permeability test from the first lift of clay had failed and the area where the sample was taken has been reworked and resampled. Jim Horton stated that the second sample appears favorable. With regards to the second lift of clay, a failed sample has been confirmed. The result of a second sample is expected tomorrow and appears to be marginal. Jim Horton explained that the cause of the failures may be due to the presence of sand seams. Jim Horton stated that the percent fines on the samples are within acceptable ranges with the exception of one sample (40% - 45%). The density and moisture are also within acceptable ranges. Juanitta Clem suggested the areas where the failed and marginal sample have been taken be reworked and retested. Jim Horton stated that it is Baker's discretion to rework the area now or wait until the result of the second sample is known. The other three tests on the second lift have passed.

Density – Juanitta Clem asked whether the density for the clay layer can be set. Jim Horton replied that there is data to support 88%. Upon further disussion, it was agreed that the clay density will be set at 88% of Standard Proctor.

Juanitta Clem stated that the clay underneath the header pipe must be placed in 6-inch lifts and each lift will be tested for density. Jeff Marshall took note.

Jeff Marshall asked whether it is acceptable to lay the 12" header pipe on the clay layer without a 6" undercut. Juanitta Clem replied that it is acceptable to lay the 12" header pipe on the clay layer with a "clear understanding" that the soil cover over the header pipe must be placed and graded in a manner that it will not become a maintenance issue (thickness of the cover reduced due to mowing). The thickness of the cover material must be a minimum of 18 inches over the pipe. Juanitta Clem requested the soil cover above the header pipe be checked for grading and thickness.

The next meeting is scheduled for February 26, 2002 at 2:00 P.M.

Contract Time Used: 100 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (25% complete): 80 days (not including the time extension since DEP approval is pending.)

cc: Attendees

Greg Mathes	John Teague
Jimmy Purvis	Mike Daniels
Chris Pearson	Tom Bilgri

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TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: February 26, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES :

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Jim Horton	LAW Engineering (LAW)
Cliff Cosby	LAW
John Teague	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Clay Layer – Baker will continue construction of the clay layer on Side Slope Units 21, 22 and 23.

Initial Cover – Grading of the initial cover on Side Slope Units 1, 2, 3 and 4 is scheduled for this week.

II. LANDFILL GAS SYSTEM EXPANSION

Flex Hose – A sample of the proposed alternate flex hose has not been received and Jeff Marshall will follow up with National Piping. (Note: Subsequent to the meeting, a sample of the proposed alternate hose was received. Upon review by TRLF and ETM, the proposed alternate hose has been determined to be acceptable.)

As-Builts – Juanitta Clem stated that the as-built drawing has not been received and requested Baker follow up with their surveyor.

III. INCREMENTAL CLOSURE

Downcomer Shop Drawing – Juanitta Clem stated the shop drawing for the downcomer pipe has not been submitted.

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Jeff Marshall stated that National Piping is on site to begin fabrication of the downcomer pipe. Juanitta Clem requested the fittings for the downcomer pipe be verified to ensure that the correct fittings are used to fabricate the terrace side drains. Jeff Marshall agreed.

Termination of the Downcomer – William Davidson stated that the termination of the downcomer on the top terrace is shown on the Construction Plans.

Juanitta Clem stated that DEP has not responded to the letter regarding the four wells with aggregate that did not meet the project specification. With regards to the time extension, Juanitta Clem stated that a formal response has not been received from the DEP.

Test Strip – Juanitta Clem stated that the first lift of clay on the test strip has been tested and approved. The second lift of clay has been tested and approved for density and the result of the one remaining permeability sample is pending. Jim Horton stated that the remaining sample appears favorable.

Downcomer (Western Slope) – Jeff Marshall stated that Baker will continue grading the first lift of clay at the downcomer location and expects the clay layer to be ready for permeability testing tomorrow. Jeff Marshall stated that balancing of the clay layer will coincide with construction of the clay layer at the downcomer location.

Juanitta Clem stated that testing of the clay at the downcomer location should be a priority. LAW and Baker agreed. Jeff Marshall stated that Baker will not be constructing the second lift of clay at the downcomer location until the permeability of the first lift has been approved. Juanitta Clem estimated that if the samples pass, the downcomer could be installed within 2 weeks, weather permitting. Baker will start grading the initial cover on the east slope while waiting on the results.

Initial Cover – For the record, Juanitta Clem stated that the initial cover was as-built prior to Baker constructing the clay layer on the western slope.

Sand for the Underdrain – Jim Horton stated that the proposed sand failed to meet the project specification for the effective grain size. Upon discussion, it was agreed that Baker will locate another source for the sand.

The next meeting is scheduled for March 5, 2002 at 2:00 P.M.

Contract Time Used: 107 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (30% complete): 73 days (not including the time extension since DEP approval is pending.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Mike Daniels
Tom Bilgri

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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P.
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: March 5, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Clay Layer – Baker will continue construction of the clay layer on Side Slope Units 1, 2, 21, 22 and 23.

Downcomer – National Piping will continue fabricating the downcomer and the terrace side drains.

II. LANDFILL GAS SYSTEM EXPANSION

Flex Hose – Jeff Marshall will contact National Piping and verify whether the hose has been ordered.

As-Built – A draft of the as-built has been submitted and currently in review.

III. INCREMENTAL CLOSURE

Clay Layer – Cliff Cosby stated that all the permeability tests on the first lift of clay in Units 21-23 have passed. Jeff Marshall stated that Baker will proceed with the

construction of the second lift of clay tomorrow. Juanitta Clem inquired about an area on the western slope approximately 15' on each side of the downcomer location where the first lift of clay has not been constructed. Jeff Marshall replied that Baker will balance the clay layer and complete that area simultaneously. Juanitta Clem recommended that construction of the second lift of clay at the downcomer location be a priority. Jeff Marshall agreed and stated that construction of the second lift of clay on the western slope will take approximately 2 days, weather permitting. Juanitta Clem stated that there will be seven permeability tests on the second lift of clay. John Tully took note. Permeability testing of the clay layer on the eastern slope was discussed. Based upon the size, it was agreed that one permeability test per lift will be done for Units 1 and 2. Juanitta Clem stated that the spoil pile on the eastern slope north of the clay tie-in should be removed since it is causing drainage problems. Jeff Marshall stated that the spoil pile cannot be removed at this time due to the wet conditions of the slope. Juanitta Clem requested Baker avoid unnecessary spoil piles on existing closure areas in the future. Juanitta Clem stated that Baker must clean and grade the terraces in order to drain stormwater to the north.

Underdrain – Jeff Marshall stated that construction of the underdrain on the west slope is scheduled to begin on March 8, 2002. An alternate sand borrow pit has been located and a load of sand will be delivered to the site tomorrow for testing. If the sand meets the project specifications, the sand will be delivered next week. (Subsequent to the meeting, the proposed sand was tested and approved.)

Downcomer Shop Drawing – Juanitta Clem stated installation of the downcomer will not proceed until the shop drawings has been submitted and accepted. Jeff Marshall took note.

Juanitta Clem stated that DEP has not responded to the letter regarding the four wells with aggregate that did not meet the project specification. Juanitta Clem stated that ETM will contact DEP regarding the request for time extension.

The next meeting is scheduled for March 12, 2002 at 2:00 P.M.

Contract Time Used: 114 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (35% complete): 66 days (not including the time extension since DEP approval is pending.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
John Teague
Tom Bilgri

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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P.
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: March 12, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Jim Horton	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Initial Cover – Grading of the initial cover on Side Slope Units 3 and 4 is scheduled for this week.

Clay Layer – Construction of the clay layer will be completed on the western slope and will continue on the eastern slope.

II. LANDFILL GAS SYSTEM EXPANSION

Flex Hose – The flex hose has been ordered by National Piping.

As-Built - Juanitta Clem stated that ETM has reviewed the preliminary as-built drawings and found significant problems that must be verified in the field. Jeff Marshall stated that Baker's surveyor is on-site checking the areas in question and should have a copy of the revised as-built to ETM this week. Juanitta Clem stated that the as-built drawings must be signed and sealed by a registered land surveyor.

III. INCREMENTAL CLOSURE

Clay Layer – Jim Horton stated that all samples for the second lift of clay at the downcomer location have passed the permeability test. The results of the permeability testing for the second lift of clay on the eastern side slopes are expected on Thursday. Jeff Marshall stated that additional clay is needed to meet the 6" thickness requirement for the first lift of clay on Side Slope Units 1 and 2. Construction of the clay layer on Side Slope Units 3 and 4 is scheduled for next week. Juanitta Clem stated that a total of 4 permeability tests are required for the first lift of clay on the eastern slope.

Downcomer – Construction of the downcomer is scheduled for March 25, 2002. Jeff Marshall stated the schedule is based upon the availability of the welding equipment for 30" pipes. Juanitta Clem requested the shop drawings for the downcomer pipe be provided as soon as possible.

Time Extension – Juanitta Clem stated that Julia Boesch of the DEP has informed ETM that the DEP does not have a problem with the time extension and that a formal letter approving the request will follow.

The next meeting is scheduled for March 19, 2002 at 2:00 P.M.

Contract Time Used: 121 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (40% complete): 59 days (not including the time extension since DEP approval is pending.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Cliff Cosby
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: March 19, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM

I. WEEKLY SCHEDULE

Initial Cover – Grading of the initial cover on Side Slope Unit 4 north of the downcomer will be completed this week.

Clay Layer – Construction of the first lift of clay layer will continue on Side Slope Units 3 and 4.

II. LANDFILL GAS SYSTEM EXPANSION

As-Built - Jeff Marshall stated that the revised as-builts will be submitted to ETM this week.

Clay Layer – The construction of the clay layer below the 22" header on Side Slope Unit 4 was discussed at length. Jeff Marshall explained that he will construct the clay layer after the clay layer has been completed and the vegetative cover has been installed. He will undercut the clay layer and reconstruct it in 6" lifts which will be tied into the existing layer to create one homogeneous layer.

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III. INCREMENTAL CLOSURE

Clay Layer – The first lift of clay on Units 1 and 2 have passing permeability tests. Construction of the clay layer on Side Slope Units 3 and 4 will proceed this week.

Downcomer – Construction of the downcomer is scheduled for next week. Juanitta Clem requested the shop drawings (cut sheets) for the downcomer pipe.

The next meeting is scheduled for March 26, 2002 at 2:00 P.M.

Contract Time Used: 128 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (40% complete): 52 days (not including the time extension since DEP approval is pending.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
Francis Dayao
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: March 26, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Jeff Marshall	R.B. Baker Construction (Baker)
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
Bill Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Construction of Downcomer D24 is scheduled for April 1, 2002. Placement of the second lift of clay is tentatively set for April 8, 2002.

Side Slope Units 21-23 – Construction of the underdrain system and placement of top soil are expected to be complete this week. Construction of Downcomer D2 will proceed this week.

II. LANDFILL GAS SYSTEM EXPANSION

As-Built – Revised as-builts have been provided and are currently under review by ETM. William Davidson stated that there is a pipe segment that must be excavated and reconstructed and two (2) potential segments that will have to be reconstructed. Juanitta Clem asked whether National Piping will be back to correct the discrepancies. Jeff Marshall replied that he will verify this with National Piping.

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III. INCREMENTAL CLOSURE

Downcomer Shop Drawings – Juanitta Clem reminded Jeff Marshall that shop drawings for the downcomer pipe have not been submitted. Jeff Marshall replied that he will follow up with National Piping.

Top Soil – Placement of top soil on the western slope will continue. Juanitta Clem stated that ETM is investigating whether or not the pH of the proposed top soil is acceptable. (Note: Subsequent to the meeting, the pH of the proposed top soil was found to be within acceptable range.)

Construction of the clay layer on Side Slope Unit 4 on the eastern slope was discussed in detail. Preliminary investigation of the existing clay layer revealed that the existing clay layer north of the downcomer (at the terrace tie-in) is approximately 6' lower than plan grade. Based on field observations, removal of existing waste at the clay tie-in will be required. Juanitta Clem stated that she will discuss waste removal at the tie-in with Greg Mathes. Juanitta Clem requested Jeff Marshall and William Davidson to investigate the elevation of the existing clay layer at Terrace 3 in order to determine the slope on Unit 4. Juanitta Clem stated that construction of the side slope must proceed per design. Jeff Marshall explained that construction of the side slope, underdrain system and sod placement will be more difficult due to a steeper side slope and asked whether Baker will be compensated for the additional work on Side Slope Unit 4. Juanitta Clem replied that a Change Order request is not justified since the Bidders have been informed of the settlements at the site at the Pre-Bid Conference and were encouraged to review the site prior to submitting their bids.

Contract Time Used: 135 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (55% complete): 45 days (not including the time extension since DEP approval is pending.)

The next meeting is scheduled for April 2, 2002 at 2:00 P.M.

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Neil Rushing
Jim Horton
John Teague
Tom Bilgri

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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: April 2, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Don Butler	GSE (National Piping)
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Bill Davidson	England, Thims & Miller, Inc. (ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Downcomer - Construction of Downcomer D-2 will continue this week and is expected to be complete by April 5, 2002.

Side Slope Units 1-4 – Waste removal on Unit 4 will continue this week and will be followed by placement and grading of the initial cover. Baker plans to have the initial cover on Unit 4 ready for as-built by April 8, 2002. Construction of the first lift of clay on Unit 4 will begin on April 9 and is expected to be complete by April 13, 2002, weather permitting.

Side Slope Units 21-23 – Placement of top soil on Units 21-23 will be complete by April 8, 2002.

Gas System Expansion – Construction of the gas system on the western slope is scheduled to begin on April 8, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Jeff Marshall asked whether it is possible to construct Well RW-7 north of its plan location. Francis Dayao requested a drawing showing the proposed new location of the well and the 6" header line for review with EMCON.

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William Davidson stated that National Piping has been informed of the re-laying of header pipes that did not meet the design slope. Don Butler will verify the schedule of re-laying the header pipes with National Piping.

As-Builts – William Davidson stated that ETM has provided the surveyor with review comments regarding the tabular information. William Davidson stated that as-built information on the laterals has not been submitted and that locating the laterals may be difficult since the markers have been knocked out due to landfill operations.

III. INCREMENTAL CLOSURE

Downcomer Shop Drawings – William Davidson stated that the shop drawings have not been submitted. Don Butler took note and stated that he will verify the status on the shop drawings.

William Davidson stated that ISCO is on site to finish construction of the downcomer. William Davidson stated that additional fittings for the underdrain are needed. Don Butler stated that he will do an inventory of the materials and order the necessary materials for the underdrain system.

Side Slope Units 1-4 – Baker completed placement of first and second lift of clay within Units 1-4 south of the downcomer. The permeability test results have been received and all passed. William Davidson requested the existing clay at the southern edge of the compactor access road be exposed prior to construction and grading of the initial cover.

Side Slope Units 21-23 – William Davidson stated that placement of top soil within Units 21-23 is substantially complete and will be as-built this week. William Davidson stated that LAW resampled the top soil for pH and organic content and were found to be acceptable.

Contract Time Used: 142 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (60% complete): 38 days (not including the time extension since DEP approval is pending.)

The next meeting is scheduled for April 9, 2002 at 2:00 P.M.

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Juanitta Clem
Jim Horton
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P.
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: April 9, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Don Butler	GSE (National Piping)
Jim Horton	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM
William Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Downcomer D-24 - Construction of Downcomer D-24 on the eastern slope is scheduled to begin on April 10, 2002.

Side Slope Units 1-4 – Placement of the first lift of clay on Side Slope Unit 4 north of the downcomer is scheduled this week.

Gas System Expansion – The gas system expansion tie-in on the western slope is scheduled for this week.

II. LANDFILL GAS SYSTEM EXPANSION

RW-7 – Juanitta Clem stated that Baker's proposal to shift Remote Well RW-7 to the north is being reviewed by EMCON. Juanitta Clem stated that moving RW-7 to the downcomer has advantages and disadvantages and its up to Baker to make that decision as to where RW-7 and the 6" header line will be located. After further discussion, it was agreed that ETM and Baker will review Baker's proposed location of RW-7 and the 6" header line in the field after the meeting.

National Piping – Juanitta Clem asked whether the remainder of the landfill gas system expansion will be conducted by National Piping. Jeff Marshall stated that National Piping may either finish the remainder of the project or sub-contract it to Plastic Fusion. If Plastic Fusion will not be under the supervision of National Piping, Juanitta Clem stated that Plastic Fusion must be pre-qualified prior to working on the gas system. Jeff Marshall acknowledged and stated that he will contact National Piping and see who will be finishing the landfill gas system expansion.

Revised As-Builts – Baker's surveyor will review ETM's comments with William Davidson. William Davidson stated that the as-builts do not have the as-built information on the tees and laterals from the header to the riser pipe. Juanitta Clem requested that Jeff Marshall verify this with the surveyor and have the revised as-builts reviewed, corrected and submitted as soon as possible.

Well T-29 Tie-in – Juanitta Clem stated that due to the settlement on the eastern slope, the tie-in to the existing permanent well may create drainage problems on Terrace 3. Juanitta Clem suggested the 6" header pipe cross Terrace 4 and head southeast and tie into the 22" header pipe at the downcomer location at Terrace 3. Juanitta Clem stated that ETM will discuss this with EMCON. Jeff Marshall agreed to Juanitta Clem's proposal and stated that construction will not be as difficult. Juanitta Clem stated that the fittings for the bends and tie-in will be based on field conditions.

Shop Drawings – ETM will review the shop drawings for the downcomer (straight run pipe) that were provided. Juanitta Clem stated that the pipe sizes must be identified and the Standard Dimension Ratio (SDR) for the fittings (on-site) must be provided for each fitting.

III. INCREMENTAL CLOSURE

Clay Layer – All permeability testing south of the downcomer on Side Slope Unit 4 have passed.

Downcomer D-2 – ISCO will continue construction of the downcomer side drains.

Pipe Encasement – Juanitta Clem stated that Baker had asked whether contaminated clay may be utilized to encase the downcomer pipe. Juanitta Clem stated that since the clay encasement is not part of the clay layer, the material may be utilized if the material is at least 90% clay (from the borrow pit).

Side Slope Unit 4 – Jeff Marshall stated that the waste has been removed and initial cover has been placed and rough graded. Baker will continue to uncover the clay tie-in at Terrace 3. Juanitta Clem stated that due to settlement on closed Unit 3 (north of the downcomer), the slope between Terraces 3 and 4 will have to be adjusted. Jim Horton stated that he had analyzed the adjusted slope and it will have a safety factor slightly above 1 whereas the typical slope has a 1.3 safety factor. The effects of a steeper side slope were discussed and upon discussion, it was agreed that in order to reduce the potential of slippage (and top soil erosion), sod placement will be critical and must be accomplished as soon as possible after top soil placement. Juanitta Clem stated that if the weather is favorable this week, Baker should construct the first lift of clay layer on Unit 4 north of the downcomer.

Downcomer and Side Drains – The possibility of using ADS pipe to transition from the smooth-walled pipe for the 18" side drain was discussed.

Juanitta Clem stated that ETM reviewed Baker's request regarding the additional construction cost incurred due to the slopes on Unit 4 and requested Baker provide the necessary justification.

The next meeting is scheduled for April 16, 2002 at 2:00 P.M.

Contract Time Used: 149 days
Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (65% complete): 31 days (not including the time extension since DEP approval is pending.)

cc: Attendees

Greg Mathes	Cliff Cosby
Jimmy Purvis	John Teague
Chris Pearson	Tom Bilgri

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Samuel R. Crissinger, CPA, V.P
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Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: April 16, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM
William Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Downcomer D-2 - Construction of Downcomer D-2 on the western slope is scheduled to be completed on April 16, 2002.

Side Slope Units 1-4 – Initial cover as-builts on Unit 4 is scheduled for April 22, 2002. Placement of the first lift of clay layer on Unit 4, north of the downcomer, is scheduled for April 22, 2002. Construction of the underdrain on Units 1-3 is scheduled for April 18-20, 2002 and placement of top soil on Units 1, 2, and 3 is scheduled for April 20, 2002.

Gas System Expansion – The gas system expansion tie-in on the western slope is scheduled for the week of April 22 and the tie-in on the eastern slope is scheduled for the week of April 29, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Jeff Marshall stated that Plastic Fusion may be finishing the remainder of the project. Juanitta Clem reminded Baker that Plastic Fusion must be pre-qualified and requested that pre-qualification documents be submitted to ETM for review this week. Jeff Marshall took note.

The construction of the 6" header line on the eastern slope from Well T-29 was discussed. Juanitta Clem stated that the proposal to relocate the 6" header line from Well T-29 has been approved by EMCON.

As-Builts – Jeff Marshall stated the revised as-builts will be submitted electronically to ETM today. (Note: Subsequent to the meeting, the revised as-builts were submitted and are currently being reviewed by ETM.)

Remote Well RW-7 – Juanitta Clem stated that the proposed relocation of RW-7 has been approved by EMCON and asked Baker where RW-7 will be located. Jeff Marshall stated that RW-7 and the 6" header line will be located near the downcomer. Juanitta Clem asked Baker how the existing top soil layer will be excavated on Units 1 and 2 at the downcomer location. Jeff Marshall replied that a small hoe with a 2 ft. wide bucket will be utilized.

III. INCREMENTAL CLOSURE

Side Slope Units 21-23 – Jeff Marshall stated that the remainder of the top soil will be placed tomorrow and the western side slope will be rough graded. Juanitta Clem expressed her concern regarding the loaded trucks running over the terrace and possibly crushing the 6" underdrain pipe with minimal cover on Unit 21. Jeff Marshall stated that he will have the 6" pipe inspected. Juanitta Clem requested Baker take necessary precautions while crossing the terraces.

Side Slope Units 1-4 – Juanitta Clem stated that the she reviewed the eastern slope prior to the meeting and expressed her concern regarding significant soil erosion and uncontrolled drainage. Juanitta Clem stressed the importance of managing the stormwater runoff from the top. Juanitta Clem made it clear that Baker is responsible for managing the drainage system since the drainage system was operational prior to the start of the project. Juanitta Clem stressed the importance of covering exposed waste within 24 hours. Bridging the gap between the existing downcomers was discussed and upon discussion, it was agreed that ADS pipe will be used to temporarily connect the existing downcomers to control the runoff from the top.

Clay at Downcomer D-24 – Juanitta Clem requested that construction of the first lift of clay at the downcomer location be completed as soon as possible. Juanitta Clem stated that it is Baker's decision to proceed with placement of the second lift of clay at the downcomer location, prior to obtaining the permeability results of the first lift of clay. Juanitta Clem stated that Baker must proceed with constructing the first lift of clay on Unit 4, north of the downcomer, to avoid erosion of the initial cover. Juanitta Clem stated that if the drainage system is not managed and Downcomer D-24 is not constructed as soon as possible, there is a potential for loosing Terrace 3 in a rain event.

Downcomer D-2 – Juanitta Clem requested the termination of the 30" downcomer pipe at the top be covered at least temporarily if the permanent cover is not on site.

Jeff Marshall stated that the justification for the additional cost incurred for the construction of Unit 4 is being reviewed internally.

The next meeting is scheduled for April 23, 2002 at 2:00 P.M.

Contract Time Used: 156 days

Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (65% complete): 24 days (not including the time extension since DEP approval is pending.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Tom Bilgri
Jim Horton
Cliff Cosby
John Teague

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Scott A. Wild, P.E., PSM, V.P.
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Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: April 23, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM
William Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Initial cover as-builts on Unit 4 are scheduled for the week of April 22, 2002. Placement of the first lift of clay layer on Unit 4, north of the downcomer, is scheduled for April 25, 2002. Placement of the second lift of clay layer is scheduled to begin on May 9, 2002.

Gas System Expansion – The gas system expansion tie-in on the western slope is scheduled for the week of April 29 and the tie-in on the eastern slope is scheduled for the week of May 6, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Jeff Marshall stated that Plastic Fusion will mobilize to the site on Monday, April 29, 2002 to construct the landfill gas system expansion and that Plastic Fusion's qualifications have been requested. At this time, it is not certain whether GSE will be supervising the construction of the gas system.

As-Builts – William Davidson stated that the revised as-built drawings did not address majority of the comments that have been previously noted. Jeff Marshall stated that the surveyor is scheduled to meet with William Davidson tomorrow to discuss the as-built drawings. Jeff Marshall stated that his surveyor may assist with the as-built drawings.

III. INCREMENTAL CLOSURE

Side Slope Units 21-23 – Juanitta Clem asked whether the top soil has been as-built. Jeff Marshall replied that the top soil has not been as-built and will coordinate the survey schedule with William Davidson.

Side Slope Units 1-4 – Jeff Marshall asked whether it is possible to construct the clay layer on Unit 4, north of the downcomer, in 100-ft. increments. Juanitta Clem replied construction of the clay layer in 100-ft. increments is acceptable. Juanitta Clem requested Baker construct the clay layer as soon as possible to prevent erosion of the initial cover and suggested that the silty, wet material in Terrace 3 be removed and initial cover be placed in preparation for clay construction at the tie-in. Juanitta Clem stated that construction of the clay layer on Unit 4 is a critical path item. Jeff Marshall agreed.

Downcomer D-24 – Construction of the second lift of clay layer at the downcomer location is scheduled for tomorrow. Juanitta Clem stated that the existing downcomer between Terrace 4 and Terrace 5 was reviewed with Neil Rushing. Juanitta Clem stated that the segment of the downcomer pipe must be pulled out, the grade adjusted and the downcomer pipe relaid. Juanitta Clem requested Baker provide a cost estimate for the additional work. Juanitta Clem asked whether all the materials for Downcomer D-24 are on site. William Davidson replied that all the necessary materials including the fittings are on site. The downcomer is also a critical path item. Juanitta Clem requested justification for the cost estimate that was submitted for the additional work on the downcomer.

Juanitta Clem stated that Baker is taking a serious risk not having the clay layer and downcomer constructed on Unit 4.

Weather Delays – Juanitta Clem stated that the FDEP has not responded to the letters regarding time extensions and ETM will follow up with the FDEP. (Note: Subsequent to the meeting, the completion date of June 29, 2002 was accepted by the FDEP.)

Disturbed Areas – Jeff Marshall stated that the grassed areas above Terrace 4 on the eastern slope have been disturbed during the construction of Side Slope Unit 4 and asked whether these areas will have to be reseeded by Baker. After further discussion, it was agreed that Baker will not be required to reseed the disturbed grassed areas. However, Baker must regrade these areas and have it ready for seeding.

The next meeting is scheduled for April 30, 2002 at 2:00 P.M.

Contract Time Used: 163 days

Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (70% complete): 67 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: April 30, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Terry Canning	GSE
John Kiwade	Plastic Fusion
John Tully	LAW Engineering (LAW)
Francis Dayao	England, Thims & Miller, Inc. (ETM
William Davidson	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Placement of the first lift of clay layer on Unit 4, north of the downcomer, is expected to be complete this week. Construction of the underdrain is scheduled for May 8, 2002.

Downcomer D-24 – Construction of the downcomer and side drains will continue this week.

Gas System Expansion – The gas system expansion tie-in on the western slope is scheduled for May 1 and the tie-in on the eastern slope is scheduled for May 9, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Plastic Fusion has mobilized to the site to complete the landfill gas system expansion. Terry Canning with GSE will be supervising the construction of the gas system. William Davidson provided GSE and Plastic Fusion with an update of the landfill gas system expansion.

Baker will be excavating the top soil on the western slope for the landfill gas system tie-in. William Davidson stated that a representative from ETM or LAW must be present during the excavation of the top soil and that every effort must be made to minimize disturbing the clay layer.

As-Builts – William Davidson stated that a few changes have been made on the as-built drawings but overall, a lot of information is still missing. ETM and Baker will review the as-builts with the surveyor.

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William Davidson stated the pipe for the condensate drain appeared to be bulging and asked Baker to replace the pipe prior to the gas system tie-in. Jeff Marshall agreed to replace the pipe.

III. INCREMENTAL CLOSURE

Side Slope Units 1-4 – Construction of the first lift of clay in the area north of the downcomer will be complete by Wednesday.

Side Slope Units 21-23 – Baker has substantially completed Downcomer D-2 and placement of the top soil. William Davidson stated that the underdrain cleanouts must be installed and the terrace flats at the downcomer must be constructed.

Downcomer D-24 – The second lift of clay layer at the downcomer location has been tested for permeability and it passed. Plastic Fusion will be constructing Downcomer D-24 this week. William Davidson suggested that ETM and Plastic Fusion review Downcomer D-24 in the field after the meeting.

The next meeting is scheduled for May 7, 2002 at 2:00 P.M.

Contract Time Used: 170 days

Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (75% complete): 60 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Juanitta Clem
Jim Horton
Cliff Cosby
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: May 7, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Terry Canning	GSE
John Kiwade	Plastic Fusion
Cliff Cosby	LAW Engineering (LAW)
John Tully	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM
William Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Placement of the second lift of clay layer is substantially complete. Construction of the underdrain system is scheduled for this week.

Downcomer D-24 – Construction of the downcomer is complete up to Terrace 5.

Gas System Expansion – The gas system expansion tie-in on the western slope is scheduled this week.

II. LANDFILL GAS SYSTEM EXPANSION

Juanitta Clem reviewed the terrace crossings on the eastern and western slopes. Juanitta Clem stated a portion of the gas header (approximately 100 ft.) installed by National Piping did not meet the design slope and asked when will the header pipe will be replaced. Jeff Marshall replied that the segment of the gas header will be removed and replaced, after the landfill gas system within the closure areas is complete.

As-Builts – William Davidson stated that majority of the comments on the revised as-builts have not been addressed. Juanitta Clem expressed concern about the as-builts and stated that the as-builts may delay the project. William Davidson stated that the as-builts for the remainder of the gas system must be taken when the gas system within the final closure areas is complete. William Davidson stated that the as-builts on the header system will be taken at every 100 feet and at a minimum, the location of all flanges, laterals and valves must be included.

III. INCREMENTAL CLOSURE

Side Slope Units 1-4 – The initial permeability testing on the second lift of clay layer had failed and the area was reworked and retested. The results of the second permeability test should be ready by next week. Jeff Marshall stated that top soil placement in Unit 4 will begin from the north. William Davidson stated that the swales on the east and west ends must be reconstructed and asked Baker the schedule for reconstructing the swales. Jeff Marshall replied that the swales will be reconstructed during sod placement on the eastern slope.

Side Slope Units 21-23 – Jeff Marshall stated that grading, grassing and placement of rip rap bags will be scheduled, after the construction of the gas system within the closure areas is complete.

Downcomer D-24 – Juanitta Clem stated that she was informed that the existing flange in Terrace 3 was extrusion weld rather than fusion weld and asked Plastic Fusion their opinion on the weld. John Kiwade replied that the extrusion weld of the flange is fine and that pressure was applied on the flange during construction of the downcomer segment from Terraces 3 and 4 and the weld on the flange did not break. John Kiwade asked whether Plastic Fusion can field fabricate the 22" x 6" tee and fabricate it, using extrusion weld. Juanitta Clem replied that ETM will discuss this with EMCON and will get back with Baker.

The next meeting is scheduled for May 14, 2002 at 2:00 P.M.

Contract Time Used: 177 days

Contract Time Remaining: Gas System Expansion (85% complete) and Incremental Closure (75% complete): 53 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
John Teague
Tom Bilgri

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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: May 14, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Neil Rushing	City of Jacksonville
Jeff Marshall	R.B. Baker Construction (Baker)
Terry Canning	GSE
John Kiwade	Plastic Fusion
John Tully	LAW Engineering (LAW)
William Davidson	England, Thims & Miller, Inc. (ETM)
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Placement of the topsoil is scheduled for tomorrow.

Side Slope Units 21-23 – Placement of the topsoil is expected to be complete by tomorrow.

Gas System Expansion – The gas system expansion tie-in on the western slope is substantially complete. The tie-in on the eastern slope is scheduled this week and is expected to be complete by next week.

Grassing – Due to dry weather, grassing has been rescheduled for May 24, 2002.

II. LANDFILL GAS SYSTEM EXPANSION

Connection of Remote Well RW-8 to the leachate cleanout riser will be complete this afternoon. Plastic Fusion will continue with the installation of the 22" header pipe on the eastern slope. William Davidson stated the 22" header line and downcomer crossing will be reviewed further when the existing downcomer is uncovered (at the crossing location). The 100 ft. segment of pipe that will be excavated and reconstructed due to insufficient slope will be done after the gas system tie-in on the eastern slope is complete. Francis Dayao asked whether all the required materials for the remainder of the gas system are on site. Terry Canning replied that all materials are on site to complete the gas system.

Remote Well RW-7 – William Davidson stated that EMCON has reviewed and approved the proposed location of RW-7.

Damaged Wellhead (Well W-37) – William Davidson stated that Baker must demonstrate that Well W-37 is functioning properly, if the wellhead will be repaired and not replaced.

As-Builts – William Davidson stated that the revised as-builts, according to the surveyor, will include the gas system within the closure areas on the western slope.

III. INCREMENTAL CLOSURE

Permeability Testing – William Davidson stated that all required permeability testing of the clay layer for the closure project is complete.

Side Slope Units 21-23 – LAW will perform thickness checks on the topsoil after the grading is complete. If the thickness of the topsoil is acceptable, as-builts of the topsoil will be scheduled.

Change Order – Jeff Marshall stated that the Change Order request will be submitted to ETM today.

The next meeting is scheduled for May 21, 2002 at 2:00 P.M.

Contract Time Used: 184 days

Contract Time Remaining: Gas System Expansion (88% complete) and Incremental Closure (85% complete): 46 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Jim Horton
Juanitta Clem
John Teague
Tom Bilgri

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Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: May 21, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Jeff Marshall	R.B. Baker Construction (Baker)
Terry Canning	GSE
John Kiwade	Plastic Fusion
John Tully	LAW Engineering (LAW)
Cliff Cosby	LAW
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
William Davidson	ETM
Nicolas Mousa	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Construction of the remaining underdrain will be complete this week.

Side Slope Units 21-23 – Placement of the topsoil is expected to be complete this week.

Gas System Expansion – The gas system expansion tie-in on the western slope is complete and the tie-in on the eastern slope will be complete this week.

II. LANDFILL GAS SYSTEM EXPANSION

As-Builts – Jeff Marshall stated that the as-builts are being revised by the surveyor and revised as-built drawings are expected within 2 weeks. Juanitta Clem expressed her concern that the as-builts may delay the submittal of the certification documents.

Damaged Wellhead – Jeff Marshall stated that the damaged wellhead will be replaced and not repaired. Jeff Marshall will follow up on the replacement schedule.

William Davidson stated that Baker must provide the 3 feet of cover over the gas headers and laterals and the as-builts must be revised to reflect the additional cover. Jeff Marshall acknowledged.

The tie-in of the 6" header pipe from Remote Well RW-7 to the 8" leachate cleanout riser was discussed and it was agreed that Plastic Fusion will use a tee fitting (with electrofusion welding) to accomplish the tie-in.

III. INCREMENTAL CLOSURE

Grassing – Jeff Marshall stated that grassing is scheduled next week and will start on the western slope. All disturbed areas which were grassed prior to the start of the construction, must be seeded or sodded. Jeff Marshall took note. Grassing was discussed further and it was agreed that ETM will provide Baker with a plan of the areas where grassing is required

Topsoil – Jeff Marshall stated that Baker will complete grading the western slope this week. Juanitta Clem stated that thickness checks will be conducted after grading and before as-builts.

Terrace – Juanitta Clem stated that the minimum 1% slope and 2.5' depth requirements for the terraces must be maintained. Jeff Marshall took note.

As-Builts – William Davidson stated that if Baker completes grading of the topsoil on the western slope, as-builts may be taken on Monday (May 27, 2002).

Side Slope Units 1-4 – Jeff Marshall stated that construction of the remaining 150 feet of underdrain will be complete this week.

Sand Cement Rip-Rap Pads – Jeff Marshall stated that placement of the rip-rap pad around the 18" side drains will be done prior to grassing of the side slopes.

Change Order – Juanitta Clem stated that the Change Order request has been forwarded to Neil Rushing for review.

The next meeting is scheduled for May 28, 2002 at 2:00 P.M.

Contract Time Used: 191 days

Contract Time Remaining: Gas System Expansion (90% complete) and Incremental Closure (85% complete): 39 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Neil Rushing
Jim Horton
John Teague
Tom Bilgri

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Juanitta Bader Clem, P.E., V.P.
Scott A. Wild, P.E., PSM, V.P.
Samuel R. Crissinger, CPA, V.P
Robert A. Mizell, Jr., P.E., V.P.
Bryan R. Stewart, V.P.

TRAIL RIDGE LANDFILL
INCREMENTAL CLOSURE AND LANDFILL GAS SYSTEM EXPANSION
CONSTRUCTION MEETING MINUTES

DATE: June 4, 2002
2:00 P.M. – 3:30 P.M.

REFERENCE: Trail Ridge Landfill
Incremental Closure and Landfill Gas System Expansion
ET&M Project No. E00-117-04

ATTENDEES:

Jeff Marshall	R.B. Baker Construction (Baker)
Neil Rushing	City of Jacksonville
Juanitta Clem	England, Thims & Miller, Inc. (ETM)
William Davidson	ETM
Francis Dayao	ETM

I. WEEKLY SCHEDULE

Side Slope Units 1-4 – Baker will continue balancing the top soil and complete the underdrain system. Sodding and overseeding are scheduled for this week.

Side Slope Units 21-23 – Sod placement and reconstruction of the swale (adjacent to Unit 21) along the perimeter road will continue this week.

Permanent Erosion Control – Hay bales and silt fence will be installed this week.

II. LANDFILL GAS SYSTEM EXPANSION

Gas System As-Builts – Jeff Marshall stated that the revised as-builts will be submitted to ETM for review next week. Jeff Marshall stated that the surveyor will be back on site this Friday to complete survey of the gas system.

Juanitta Clem stated that Tom Bilgri with EMCON has been notified that the gas system expansion is substantially complete. Francis Dayao stated that EMCON has not responded to a request to review the gas sytem. Francis Dayao will contact Tom Bilgri regarding the certification documents for the gas system.

William Davidson stated that GSE had contacted him regarding the acceptance of the gas system expansion. Juanitta Clem stated that a copy of the certification letter will be provided to GSE.

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III. INCREMENTAL CLOSURE

Placement of the hay bales and silt fence was discussed. Placement shall be per the detail shown on the construction plan.

Juanitta Clem stated that the perimeter swale must be reconstructed per the project specifications. Jeff Marshall asked whether the 18" top soil must be removed and replaced. Juanitta Clem stated that Baker may remove and replace the top 6" of the top soil prior to laying sod. Neil Rushing agreed that removal and replacement of the 6" of top soil is acceptable.

Thickness Checks – William Davidson stated that LAW is scheduled to conduct thickness checks of the top soil on the eastern slope this afternoon.

As-Builts – Angas is scheduled to do as-builts tomorrow.

Sod Placement – Jeff Marshall stated that sod placement on the western slope started yesterday and should be complete this week.

Construction Review – The schedule for reviewing the closure construction was discussed and upon discussion, it was agreed that a final will be conducted on June 12, 2002. (Note: Due to the delay in sod placement, the final has been rescheduled for June 20, 2002, at 8:30 a.m.)

Weekly Meeting – Juanitta Clem stated that today's meeting is the last weekly meeting for the project.

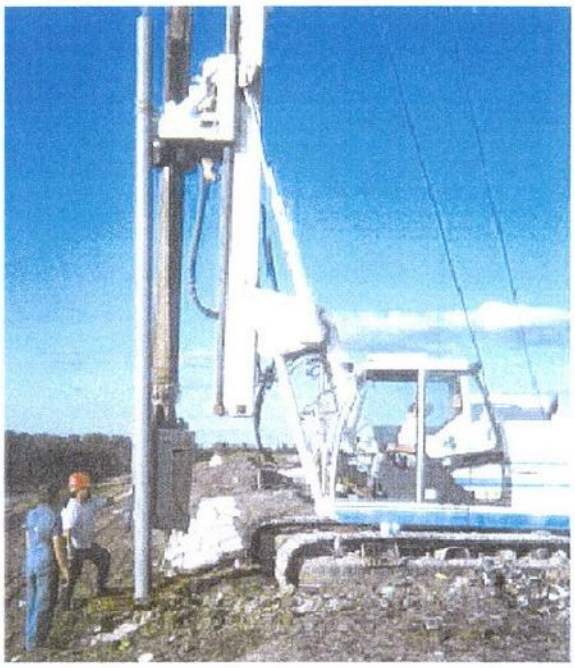
Contract Time Used: 205 days

Contract Time Remaining: Gas System Expansion (100% complete) and Incremental Closure (90% complete): 25 days (including the time extension to June 29, 2002.)

cc: Attendees
Greg Mathes
Jimmy Purvis
Chris Pearson
Neil Rushing
Jim Horton
Cliff Cosby
John Teague
Tom Bilgri

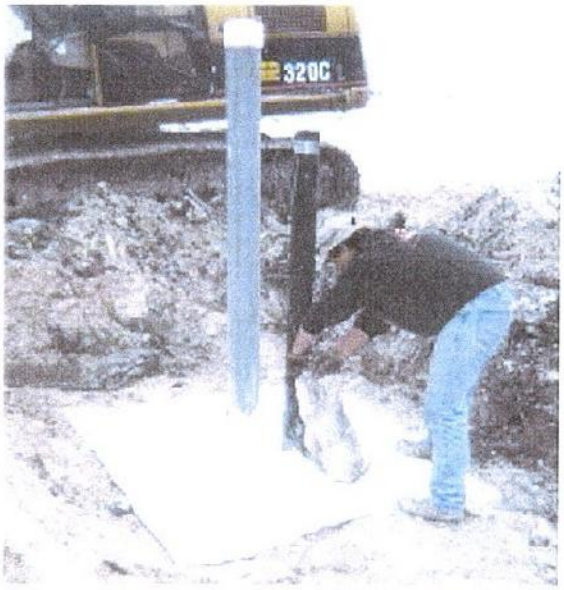
SECTION III

CONSTRUCTION PHOTOGRAPHS



Well drilling for Well W-27.

Aggregate placement for Well W-27.



Placement of Bentonite Mat.

Landtec Wellhead.

Remote Well RW-7.

Placement of 22-inch header line.

Pressure testing of header line.

Placement of six inch header line.

Underground Control Valve.

Tie-in of 6 inch header to 22 inch header pipe.