

WSW#4

County: JASPER
 Permit #: MJ-GW 16579
 Driller: Griner Drilg Serv
 Date drilling completed: July 6, 2009

State Well Report
Part I - Driller's Log

Mississippi Department of Environmental Quality
 Office of Land and Water Resources
 P.O. Box 10631
 Jackson, MS 39289-0631
 (601)961-5210
 (601)354-6938 (fax)

For Office Use Only:
 Aquifer: _____
 Well #: N0063
 L. S. Elevation: _____
 E-log #: _____

Wilcox
 Group
 elev.
 440

State Law requires that this report be prepared by the license holder responsible for the work and filed with the Department at the above address within 30 days of completion of drilling of the well or borehole.

Information on Well Owner (Landowner if borehole is not for a water well) Owner Name: <u>LEAF RIVER ENERGY</u> Mailing Address: <u>924 CR-7</u> <u>Stringer Ms 39481</u> City State Zip Code Telephone No. () _____		Well or Borehole Location Latitude: <u>31.54.10</u> Longitude: <u>89.18.49</u> Method of Lat/Long (circle one): Conventional Survey, USGS quad, <u>(Hand-held GPS)</u> Survey-grade GPS <u>NE 1/4 NW 1/4 Sec 30 Twn 1N Rng 10E</u> Distance <u>3.5</u> Miles Direction <u>NW</u> of Nearest Town <u>Stringer</u>	
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Well / Borehole Data
 Date drilling started: June 09 Date drilling completed: July 09 Hole depth: 3950 Hole diameter: 24"
 Location of the source of any surface water used for drilling: _____
 Method of dosing and volume of Chlorine used in drilling and development: _____
 Logs run (circle all applicable): No log run (Electric Gamma Ray) Density Sonic Neutron Other: _____
 Name of organization running log(s): _____
 Purpose of borehole (check one): Water Well Geotechnical/Geological Investigation _____ Ground Source Heat Pump _____
 Seismic Survey _____ Other (describe) _____
If drilling is not related to water well construction, skip the remainder of this block

Purpose of Well (check one): Home _____ Industrial Public Supply _____ Irrigation _____ Fish Culture _____ Other: Gas Storage
 If a flowing well, method of flow regulation: Valve _____ Other (describe) _____
 Static Water Level: 188 feet above or (below) (circle one) land surface Date measured: 8/22/09
 Method of Measurement (circle one) (steel tape) electric tape air line other: _____
 Well depth: _____ Well grouted to a depth of 2120 feet Type of grout (circle one) (Neat Cement) Bentonite Mix
 Casing length: 2120 feet Casing diameter: 16 inches Type of casing: Steel
 Screen length: 364 feet Screen diameter: 10 inches Type of screen: Stainless
 Screen slot size: 0.016 inches Setting depth: From 2143 feet to 3855 feet
 Type of completion (circle all applicable): (Gravel packed) Underreamed Telescoped Open hole Natural Development
 Other (describe): Pre-packed Screen
 Top of lap pipe or reduction in casing: 1633 feet. *If telescoped or more than one screen, describe on next page*

Split
 Screen

(137' of 26" surface casing)

MEMORANDUM FOR THE RECORD

DATE: 10/10/54

TO: SAC, NEW YORK

FROM: SAC, NEW YORK

SUBJECT: [Illegible]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

[Illegible text]

The sketch below only required for water wells.

If well telescopes, show depths on sketch.

Ground Level

Description of formations encountered must be provided for all wells and boreholes, unless specifically exempted by regulations

Description of Formations Encountered	From (depth) Ground Level	To (depth)
Geophysical logs provided		

If more than one screen, show location of each on sketch

Sketch the property layout and include the following: 1) the well location; 2) any permanent structures on the property that may aid in locating the well; 3) any roads, power lines, or other items that may aid in locating the property and the well; 4) a north arrow.

See attached location maps

Landowner Name: _____

Form: OLWR-SWR-1A

I certify that the well/borehole was drilled, constructed, and completed in accordance with all applicable requirements of the Mississippi Department of Environmental Quality and the Mississippi Department of Health regulations, if applicable, and state laws.

Eriven Drilling Service 9-28-09 Charles A. Shi

Print Name of Responsible Licensee and License No. Date Signature of Licensee

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State Well Report

County: JASPER

Permit #: MS-GW-16579

Driller: GRINER DRILLING

Date Completed: 10/18/09

Copy information from block on Part 1

Part 2
Pump Installer's Completion Report
 Mississippi Department of Environmental Quality
 Office of Land and Water Resources
 P. O. Box 2309
 Jackson, MS 39225-2309
 (601) 961-5210
 (601) 354-6938 (fax)

For Office Use Only:

Aquifer: _____

Well #: N163

Elevation: _____

This part of the report must be completed by a licensed water well contractor or a licensed pump installer. A copy of Part 1 of the report must be attached and both parts filed with the Department at the above address within 30 days of well completion.

Well Owner Information			Well Location		
Owner Name <u>LEAF RIVER ENERGY CENTER</u>			Latitude: <u>31-54-10</u>	Longitude: <u>89-18-49</u>	
Mailing Address: <u>53 RIVERSIDE AVENUE</u>			Method of Lat/Long (check one): <input type="checkbox"/> Conventional Survey		
<u>WESTPORT</u> <u>CT</u> <u>06880</u>			USGS quad <input checked="" type="checkbox"/> Hand-Held GPS <input type="checkbox"/> Survey-grade GPS <input type="checkbox"/>		
City	State	Zip Code	<u>SW</u> $\frac{1}{4}$ <u>SW</u> $\frac{1}{4}$ Sec <u>19</u> T <u>1N</u> R <u>10E</u>		
Telephone No. (<u>203</u>) <u>557.0577</u>			<u>NE</u> <u>NW</u> <u>30</u>	Distance Direction Nearest Town	
			<u>5</u> Miles <u>S</u> of <u>BAY SPRINGS</u>		

<p>#4</p> <p>Pump Type Circle One</p> <p>Air Lift <input type="checkbox"/> Jet <input type="checkbox"/> <input checked="" type="checkbox"/> Submersible</p> <p>Bucket <input type="checkbox"/> Piston <input type="checkbox"/> Turbine <input type="checkbox"/></p> <p>Centrifugal <input type="checkbox"/> Rotary <input type="checkbox"/> Flowing Well <input type="checkbox"/></p> <p>Other (specify): _____</p> <p>Date Pump Installed: <u>9/10/09</u></p> <p>Rated Pump Capacity <u>1000</u> Gallons Per Minute</p>	<p>Power Type Circle One</p> <p>Diesel Engine <input type="checkbox"/> Gasoline Engine <input type="checkbox"/> Natural Gas <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> Electric Motor <input type="checkbox"/> Hand <input type="checkbox"/> Tractor PTO <input type="checkbox"/></p> <p>Windmill <input type="checkbox"/> Other (specify): _____</p> <p>Horse Power Rating of Motor: <u>450</u></p> <p>Setting Depth: <u>998</u> feet</p> <p>Number of Stages: <u>6</u></p>
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<p style="text-align: center;">Pump Test Data</p> <p>Date Well Tested: <u>10/18/09</u></p> <p>Static Water Level (A): <u>163</u> Feet Below Land Surface</p> <p>Pumping Water Level (B): _____ Feet Below Land Surface</p> <p>Drawdown [(B) - (A)]: _____ Feet Below Land Surface</p> <p>Test Pumping Rate: <u>UNKNOWN</u> Gallons Per Minute</p> <p>Duration of Pump Test (minimum 4 hours): <u>N/A</u> hours</p>	<p style="text-align: center;">Method of Measuring Water Level Circle One</p> <p>Air Line <input type="checkbox"/> <input checked="" type="checkbox"/> Electric Measuring Line <input type="checkbox"/> Steel Tape</p> <p>Other (specify): _____</p> <p>For flowing well, measured shut in head: _____ feet</p> <p>Well yielded <u>UNKNOWN</u> GPM with a drawdown of <u>UNKNOWN</u> feet after _____ hours of pumping</p>
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This is for (circle one) **New Well** Replacement of Existing Pump Repair of Existing Pump

I hereby certify that the above statements are true to the best of my knowledge.

DAVE COOK 692 RECEIVED

Print Name of Pump Installer and License No. (if applicable) Signature of Pump Installer

MAR 24 2011
BY: OLWR

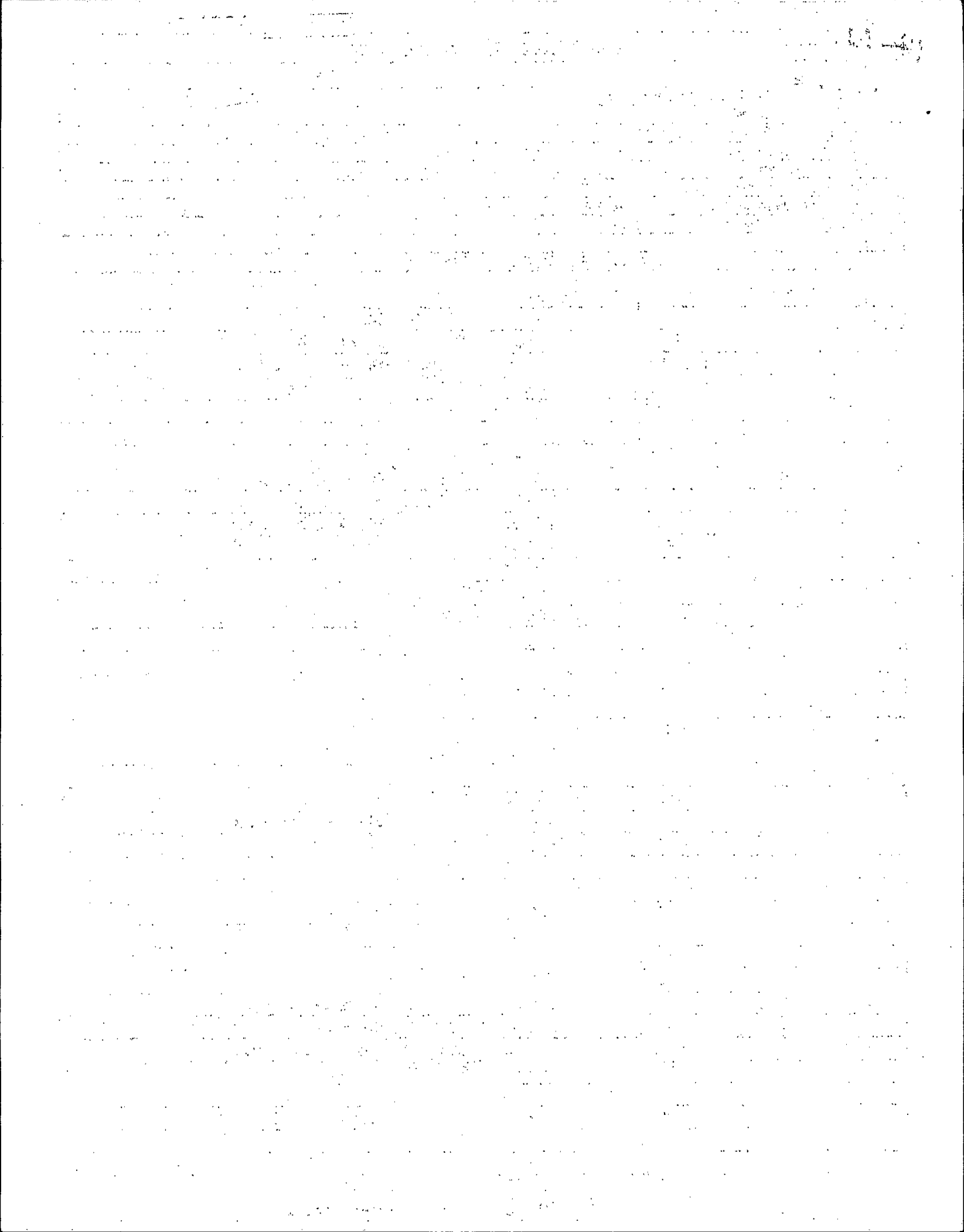
Leaf River Energy Center

Casing Tally

Name:	Leaf River Energy Center		DATE	7/3/2009
Well:	WSW #4			
Contractor:	Performance Rig 22		<==Do not enter in this cell	
Desired Shoe Depth	3950.00	<== Enter shoe depth		
KB to Wellhead	20.00	<== Enter KB elevation		
Total length - Circ head to shoe	2316.73		CASING SIZE	
Height above rotary table	-1633.27		WEIGHT	
Shoe Depth to Wellhead	3930.00		GRADE	
			TYPE	

OUT COLUMN = 0- PUT BACK 1--TAKE OUT

Orig Jt #	Total Jts Run	Length	Out	Cum Length	Joint Top	Comment
	Shoe	10.00		10.00	3940.00	Shoe
	1	42.05		52.05	3897.95	Blank w/ box
	2	42.13		94.18	3855.82	Blank w/ box & pin
		29.70		123.88	3826.12	Blank w/ pin
	3	11.00		134.88	3815.12	Screen
		4.60		139.48	3810.52	Blank Box
	4	42.11		181.59	3768.41	Blank w/ box & pin
	5	42.12		223.71	3726.29	Blank w/ box & pin
	6	42.12		265.83	3684.17	Blank w/ box & pin
		1.60		267.43	3682.57	Blank Pin
	7	31.00		298.43	3651.57	Screen
		4.60		303.03	3646.97	Blank Box
		1.60		304.63	3645.37	Blank Pin
	8	31.00		335.63	3614.37	Screen
		4.60		340.23	3609.77	Blank Box
		1.60		341.83	3608.17	Blank Pin
	9	31.00		372.83	3577.17	Screen
		4.60		377.43	3572.57	Blank Box
		1.60		379.03	3570.97	Blank Pin
	10	11.00		390.03	3559.97	Screen
		4.60		394.63	3555.37	Blank Box
	11	42.12		436.75	3513.25	Blank w/ box & pin
		8.25		445.00	3505.00	Blank w/ Pin
	12	16.98		461.98	3488.02	Screen
		6.20		468.18	3481.82	Blank w/ no box or pin
	12	11.00		479.18	3470.82	Screen
		4.60		483.78	3466.22	Blank Box
	13	42.14		525.92	3424.08	Blank w/ box & pin
	14	42.16		568.08	3381.92	Blank w/ box & pin
	15	35.40		603.48	3346.52	Blank w/ box & pin
		1.60		605.08	3344.92	Blank Pin
	16	21.00		626.08	3323.92	Screen
		6.20		632.28	3317.72	Blank w/ no box or pin
		0.00		632.28	3317.72	
	16	11.00		643.28	3306.72	Screen
		4.60		647.88	3302.12	Blank Box
	18	20.00		667.88	3282.12	Blank w/ box & pin

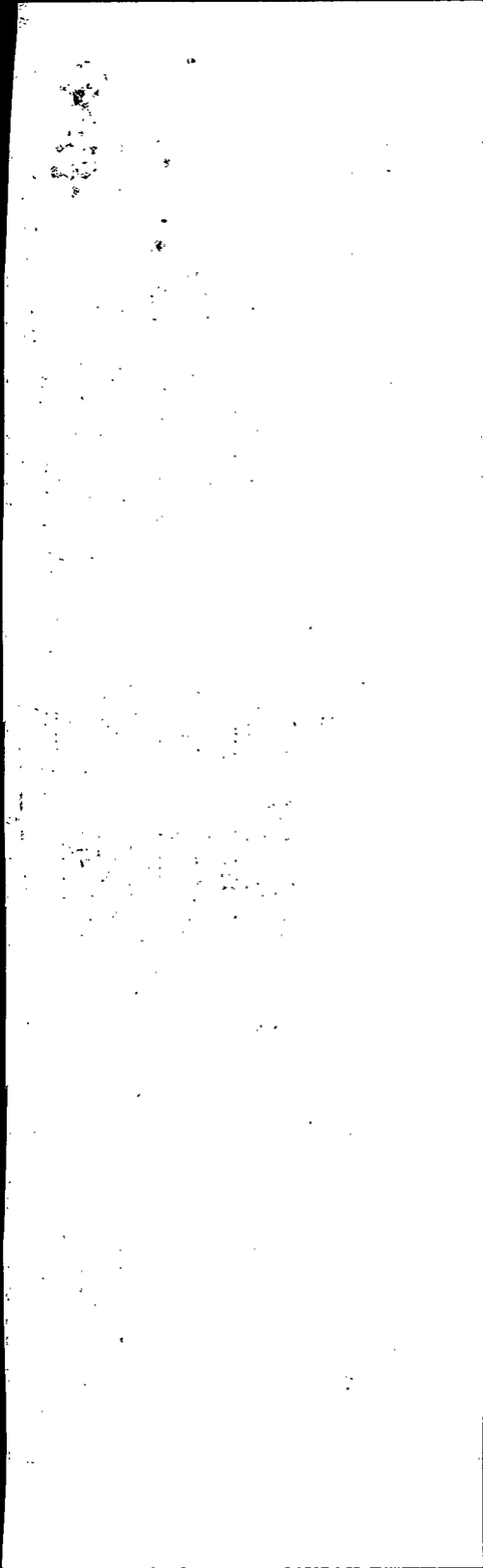


		1.60		794.20	3155.80	Blank Pin
	23	10.43		804.63	3145.37	Screen
		4.60		809.23	3140.77	Blank Box
	24	42.09		851.32	3098.68	Blank w/ box & pin
	25	42.09		893.41	3056.59	Blank w/ box & pin
	26	36.93		930.34	3019.66	Blank w/ box & pin
		18.69		949.03	3000.97	Blank Pin
	27	10.45		959.48	2990.52	Screen
		4.60		964.08	2985.92	Blank Box
	28	42.13		1006.21	2943.79	Blank w/ box & pin
	29	42.13		1048.34	2901.66	Blank w/ box & pin
	30	42.10		1090.44	2859.56	Blank w/ box & pin
		18.56		1109.00	2841.00	Blank Pin
	31	21.00		1130.00	2820.00	Screen
		4.60		1134.60	2815.40	Blank Box
	32	42.09		1176.69	2773.31	Blank w/ box & pin
		1.60		1178.29	2771.71	Blank Pin
	33	23.00		1201.29	2748.71	Screen
		4.60		1205.89	2744.11	Blank Box
	34	42.12		1248.01	2701.99	Blank w/ box & pin
		16.99		1265.00	2685.00	Blank Pin
	35	10.01		1275.01	2674.99	Screen
		4.60		1279.61	2670.39	Blank Box
	36	42.16		1321.77	2628.23	Blank w/ box & pin
	37	42.13		1363.90	2586.10	Blank w/ box & pin
		25.62		1389.52	2560.48	Blank Pin
	38	9.88		1399.40	2550.60	Screen
		4.60		1404.00	2546.00	Blank Box
	39	42.08		1446.08	2503.92	Blank w/ box & pin
	40	42.14		1488.22	2461.78	Blank w/ box & pin
	41	42.13		1530.35	2419.65	Blank w/ box & pin
		24.50		1554.85	2395.15	Blank Pin
	42	14.90		1569.75	2380.25	Screen
		4.60		1574.35	2375.65	Blank Box
	43	42.16		1616.51	2333.49	Blank w/ box & pin
	44	42.12		1658.63	2291.37	Blank w/ box & pin
	45	42.09		1700.72	2249.28	Blank w/ box & pin
	46	26.28		1727.00	2223.00	Blank w/ box & pin
		1.60		1728.60	2221.40	Blank Pin
	47	16.00		1744.60	2205.40	Screen
		9.00		1753.60	2196.40	Blank w/ no box or pin
	47	16.00		1769.60	2180.40	Screen
		4.60		1774.20	2175.80	Blank Box
		1.60		1775.80	2174.20	Blank Pin
	48	31.00		1806.80	2143.20	Screen
		4.60		1811.40	2138.60	Blank Box
	49	42.11		1853.51	2096.49	Blank w/ box & pin
	Swedge	0.57		1854.08	2095.92	X-Over - 8 5/8 x 10 3/4
	50	42.10		1896.18	2053.82	10"
	51	42.11		1938.29	2011.71	10"

10/14/78

10/14/78

		1.60		669.48	3280.52	Blank Pin
	19	25.00		694.48	3255.52	Screen
		4.60		699.08	3250.92	Blank Box
	20	19.00		718.08	3231.92	Blank w/ box & pin
		1.60		719.68	3230.32	Blank Pin
	21	11.00		730.68	3219.32	Screen
		14.32		745.00	3205.00	Blank w/ no box or pin
	21	11.00		756.00	3194.00	Screen
		4.60		760.60	3189.40	Blank Box
	22	32.00		792.60	3157.40	Blank w/ box & pin



	52	42.13		1980.42	1969.58	10"
	53	41.46		2021.88	1928.12	10"
	54	42.08		2063.96	1886.04	10"
	55	42.18		2106.14	1843.86	10"
	56	42.11		2148.25	1801.75	10"
	57	42.12		2190.37	1759.63	10"
	58	42.11		2232.48	1717.52	10"
	59	42.14		2274.62	1675.38	10"
	60	42.11		2316.73	1633.27	10"
	0			2316.73	1633.27	

N63

100

100

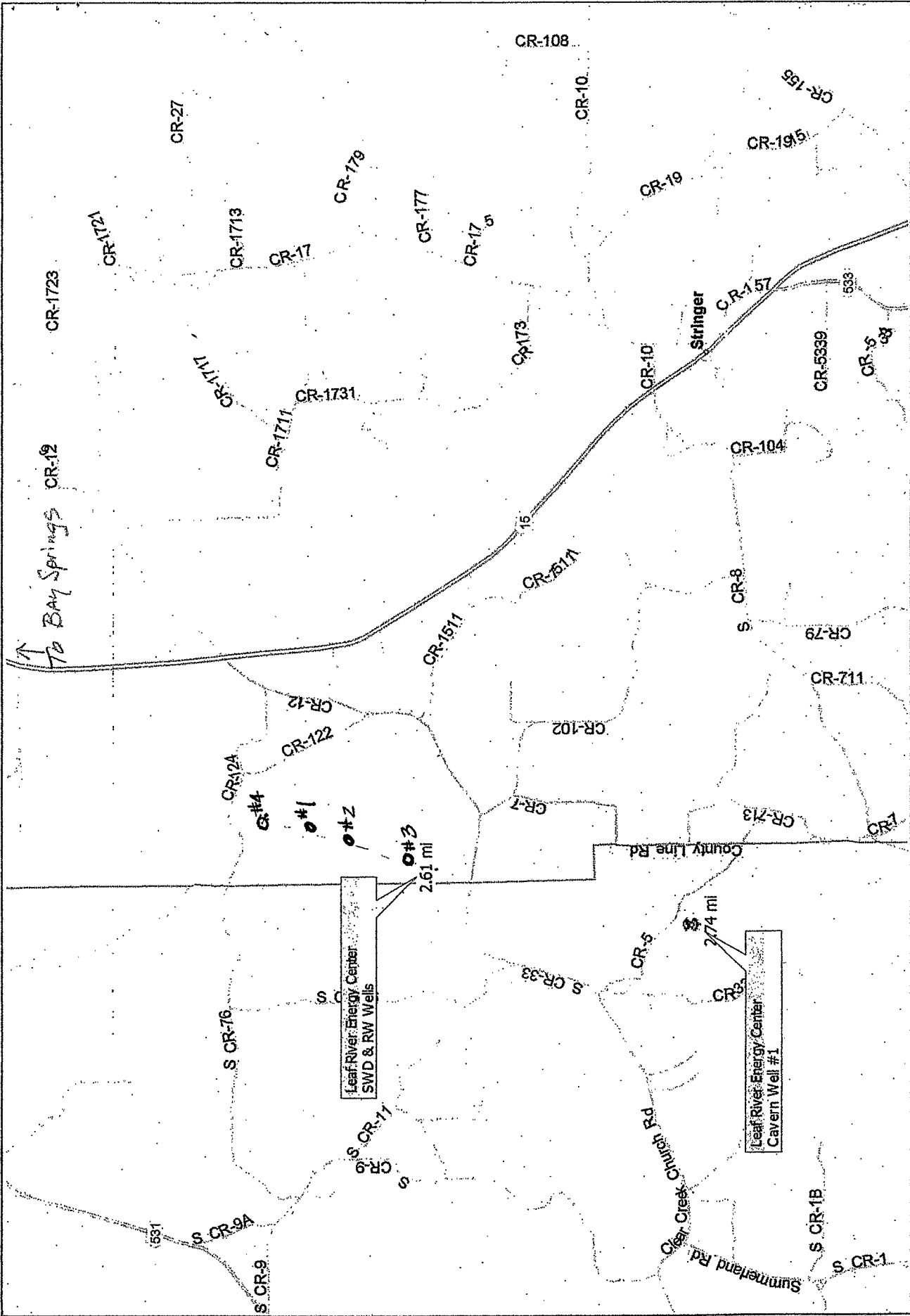
Leaf River Energy Center

To Cavern Well #1: From Laurel, Take hwy 15 North towards Bay Springs. Turn left on hwy CR12 for approx. 1 ¾ Mile. Left on CR102 for ¼ mile, Right on CR7 for 1.6 mile, Right @ Tee onto CR5 for 6/10 mile. Location on left in Pasture.

To SWD & RW Wells: From Laurel, Take hwy 15 north towards Bay Springs. Turn left on hwy CR12 & go approx. 2 miles to lease rd on right. Follow to wells.

Note: Hwy CR12 is Between Stringer & Bay Springs

Leaf River Energy Center Map



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