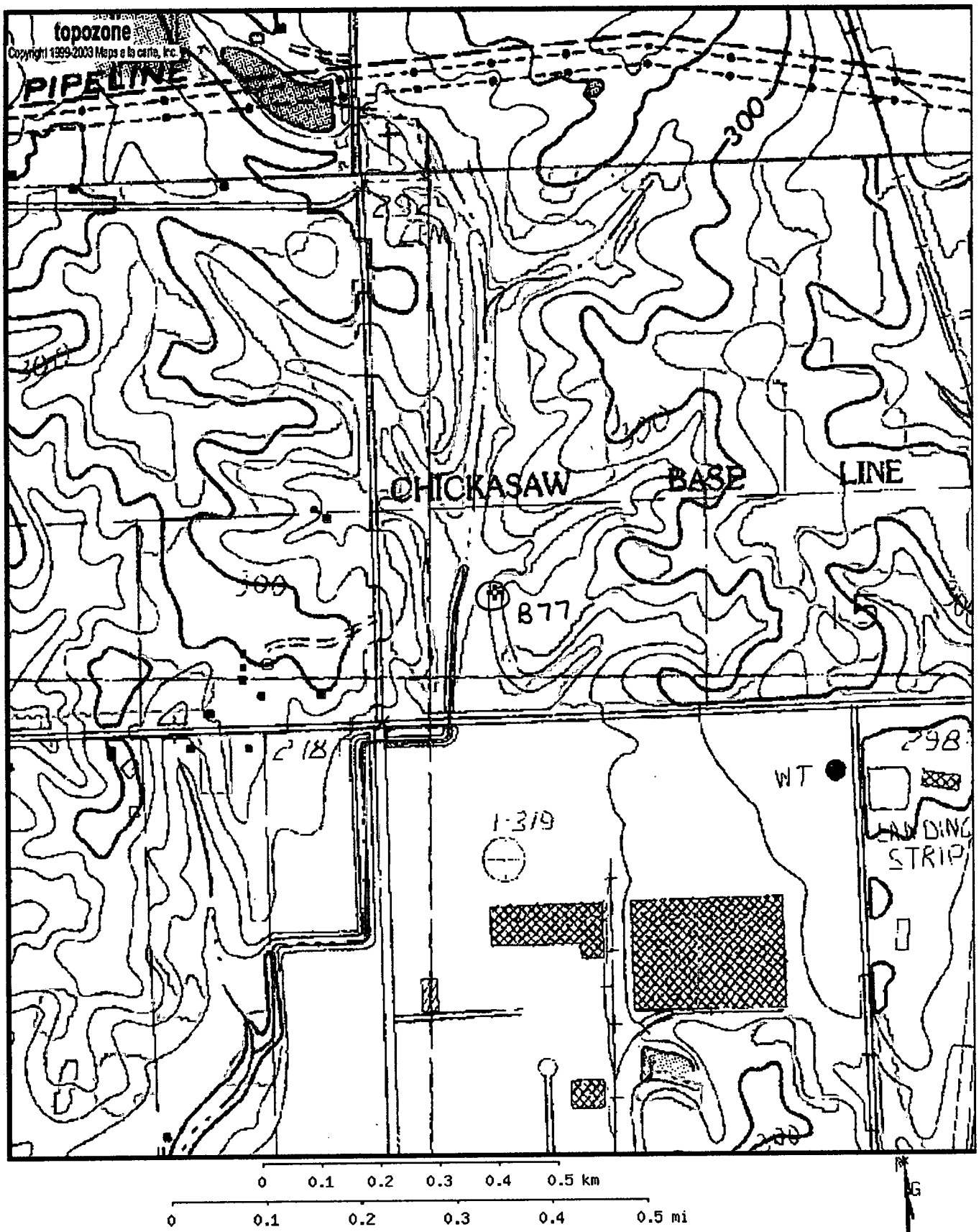
0 0.3 0.6 0.9 1.2 1.5 km

0 0.2 0.4 0.6 0.8 1 mi

Map center is 34° 59' 38"N, 90° 02' 27"W (WGS84/NAD83)
Horn Lake quadrangle - TopoZone Pro elevation display
Projection is UTM Zone 15 NAD83 Datum

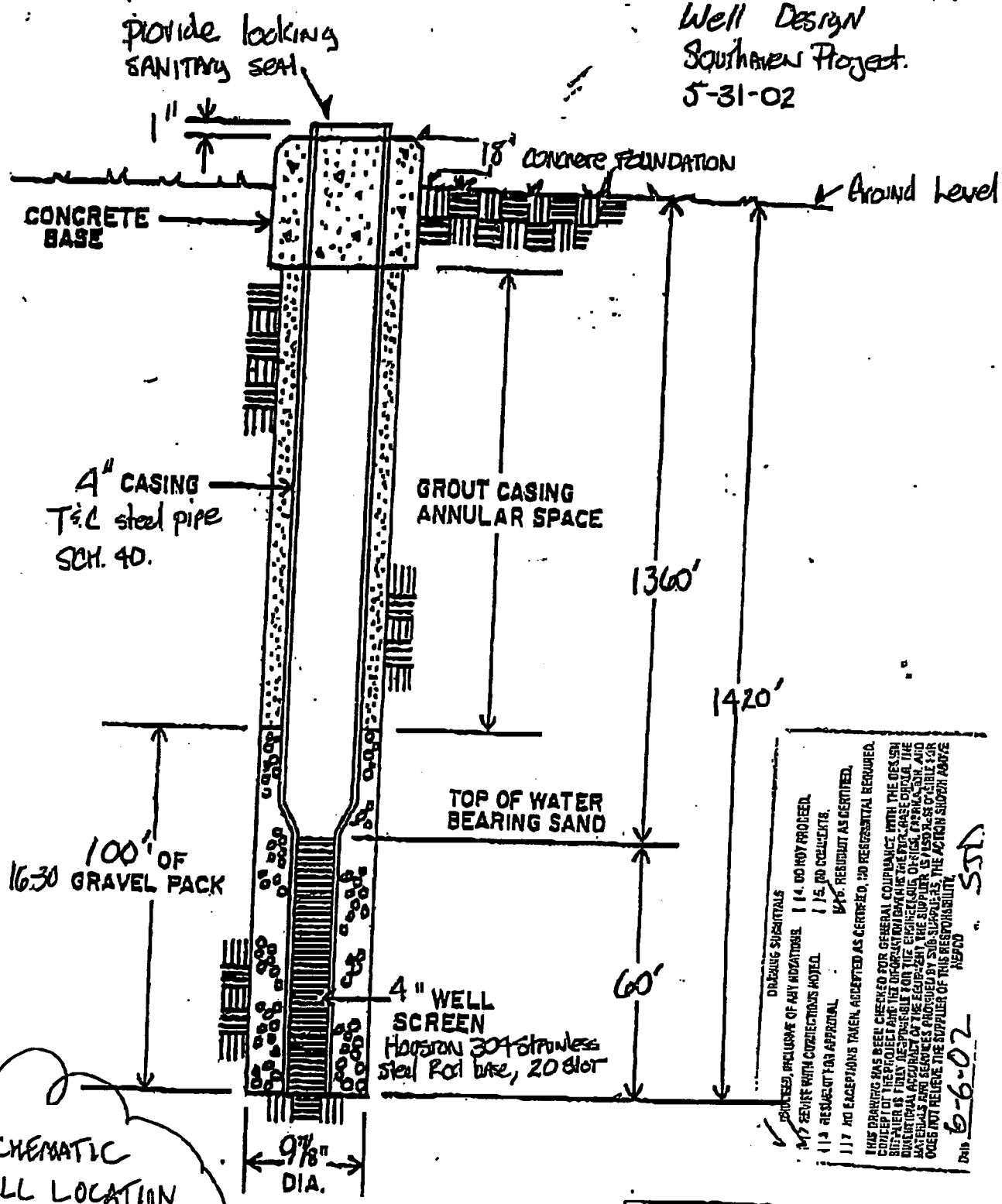
M=0.137
G=1.699



Map center is 34° 59' 38"N, 90° 02' 27"W (WGS84/NAD83)
Horn Lake quadrangle - TopoZone Pro elevation display
Projection is UTM Zone 15 NAD83 Datum

M=0.137
G=1.699

NEPCO MONITORING
Well Design
Southaven Project.
5-31-02



DRAWING SUBMITTALS
[X] 1. SERVICE WITH CORRECTIONS NOTED. [ ] 4. DO NOT PROCEED.
[ ] 2. RESUBMIT FOR APPROVAL. [ ] 5. DO COMMENTS.
[ ] 3. NO EXCEPTIONS TAKEN, ACCEPTED AS CERTIFIED. [X] 6. RESUBMIT AS CERTIFIED.
PROCESSED, INCLUSIVE OF ANY NOTATIONS.
THIS DRAWING HAS BEEN CHECKED FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND THE INFORMATION GIVEN HERE ENTIRE BASIS OF THE BIDDING. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE ENGINEERING OF THE FABRICATION, AND DIMENSIONAL ACCURACY OF THE EQUIPMENT, THE SUPPLIER, IS ALSO RESPONSIBLE FOR MATERIALS AND SERVICES PROVIDED BY SUB-SUPPLIERS. THE ACTION SHOWN ABOVE DOES NOT RELIEVE THE SUPPLIER OF THIS RESPONSIBILITY.
NEPCO
Date 6-6-02

WELL SCHEMATIC AND WELL LOCATION MUST BE APPROVED IN WRITING BY STATE OF MISSISSIPPI DEQ OFFICE OF LAND AND WATER RESOURCES

TITLE:
ONE PIECE MONITORING
WELL SCHEMATIC
DWG #: MONITORINGWELL SUBMITTAL

REC
NI
RECORDS
JUN 04 2002
5160040
RQ. # WI270
SPEC

FORMATION LOG OF THE WELL OR TEST HOLE

Started Test Hole 5/23 20 02 Finished 6/13/ 20 02 Test Hole Number 1

Location NEPCO Southaven Sec _____ TS _____ Range _____ Elevation

Total Depth	Thickness Each Stratum	Formation
10	10	Fill
29	19	Clay
47	18	Sand & Gravel
241	194	Gray Clay
251	10	Sandy Clay
313	62	Med Coarse Sand & Clay
397	84	Fine Sand & Clay Streaks
456	59	Hard Sandy Clay
466	10	Fine Sand & Clay w/ Lignite
784	318	Fine Sand & Clay Streaks
815	31	Fine Sand, Clay & Lignite W/ Rock
971	156	Fine Sand, Clay w/ Streak Lignite
1029	58	Sand Shale
1030	1	Rock
1114	84	Hard Shale & Lignite
1140	26	Shale
1240	100	Real Hard Shale & Lignite
1291	51	Hard Shale & White Clay
1316	25	Sandy Shale & White Clay
1332	16	Sandy Shale & White Clay
1379	47	Fine Sand & Shale
[illegible]	21	Fine Sand & Shale 1/2 & 1/2
1417	17	Sand & Shale
1432	15	Sand & Shale Streaks

Total Depth	Thickness Each Stratum	Formation

Mud Pit Size _____ Ft. X _____ Ft. X _____ Ft. Deep
Type Bit Used to Cut Sand
Size of Test Hole Through Sand
Type of Bit Used to Cut Upper Formations
_____ Size
Type Mud Pump Used
Drilling Pressure in Sand
Type of Mud Used
Notes:

SAMPLE
1. 1316-1347
2. 1347-1379
3. 1379-1400
4. 1400-1432

Test Data Final Test

Static Water Level	131'
Pumped GPM	
Pressure Pounds	
Draw Down	
GPFD	
Guaranteed GPM	
Guaranteed Pressure	
Date of Test	

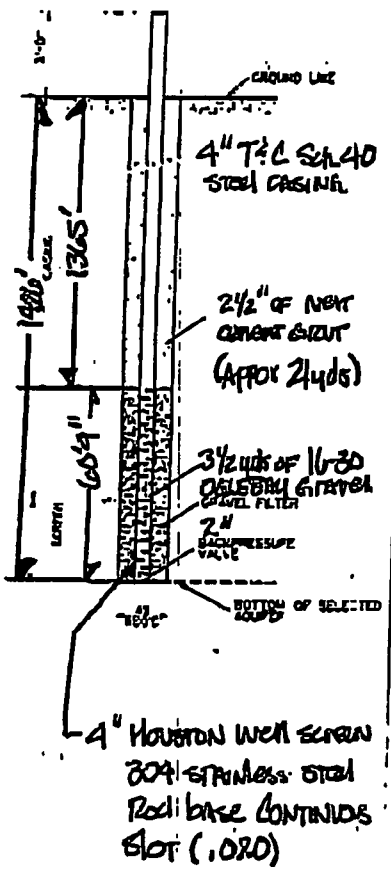
REMARKS

Driller Lynwood Hathcock

Field Supt Andrew Crawford

ALL MEASUREMENTS TAKEN FROM (GROUND) (TOP OF CASING) (TOP OF BASE PLATE)

Drawing of the Well



WELL DATA

STARTED WELL 5/23 2002 AND COMPLETED 6/13/ 2002
TOTAL DEPTH 1426' ELEVATION ____ STATIC WATER LEVEL 131'
LENGTH SURFACE CASING 45' SIZE 12" THICKNESS .250
CEMENTED WITH 25 SACKS CEMENT TYPE PACKER N/A
LENGTH WELL CASING 1365' SIZE 4" WEIGHT SMC40
CEMENTED WITH 21 yds SACKS CEMENT TYPE PACKER N/A
INNER CASING LENGTH N/A SIZE N/A WEIGHT N/A
WITH N/A X N.A GUIDES LOCATED N/A TYPE BACKOFF N/A
LEAD SEAL N/A BACKPRESSURE VALVE 2" GUIDE
WELL STRAINER MAKE HOUSTON SS SIZE 4" LENGTH 60' 4" OPENING 20 SLOT
TYPE MATERIAL 304 STAINLESS WITH WR X WR CONNECTIONS
SIZE HOLE DRILLED FOR SURFACE CASING 17" WITH ROCK ROLLER
SIZE HOLE DRILLED FOR WELL CASING 9 7/8" WITH ROCK ROLLER
SIZE HOLE DRILLED FOR STRAINER 9 7/8" WITH ROCK ROLLER
YARDS OF GRAVEL USED 3 1/2 HOW PLACED GRAVEL LINE
HOW WELL WAS DEVELOPED AIR DEVELOPMENT
NOTES: Monitoring Well

RIG USED GD7500 DRILLER Lynwood Hathcock

PUMP RECORD

SERIAL NUMBER ____ MAKE ____ FOUNDATION
LENGTH COLUMN ____ SIZE ____ TYPE ____ • 10 LENGTHS
BOWL SIZE ____ TYPE ____ STAGES ____ MATERIAL IMPELLOR
MATERIAL BOWL ____ WITH ____ PORTS AND ____ SHAFT
SUCTION SIZE ____ LENGTH ____ SUCTION STRAINER
IS PUMP SEALED? HOW ____ WHERE ____ WITH WHAT
LUBRICATOR TYPE ____ SIZE ____ VOLTAGE
LENGTH OF AIRLINE ____ SIZE ____ VOLTAGE
AIR RELEASE VALVE TYPE ____ SIZE
SIZE SURFACE DISCHARGE ____ TYPE ____ DAYTON COUPLING
PRESSURE GAUGE ____ SPEED
NOTES:

RIG USED TO SET PUMP ____ INSTALLER
DATE PUMP INSTALLED ____ 20 ____ DATE IN OPERATION ____ 20

MOTOR

MAKE ____ HP ____ FRAME
PHASE ____ CYCLE ____ VOLT 220
SPEED ____ MODEL ____ SERIAL NUMBER
TOP BEARING ____ BOTTOM BEARING ____ RATCHET
STARTER ____ PRESSURE SWITCH ____ FLOAT

GEAR

MAKE ____ MODEL ____ SIZE ____ RATIO ____ NO.
SIZE PULLEY ____ TYPE MOTOR FRAME

ENGINE

MAKE ____ MODEL ____ HP ____ SERIAL NUMBER
SPEED ____ SIZE PULLEY ____ FOUNDATION
TYPE FUEL TANK ____ MAKE MAG. ____ NO.
MAKE STARTER ____ NO. ____ TYPE FUEL
MAKE FLEXIBLE SHAFT ____ SIZE
LENGTH ____ BELT LENGTH

GENERAL

PURPOSE FOR WHICH THIS WATER IS USED Monitoring Well
TEMPERATURE ____ IS WATER CLEAR ____ CAPACITY
SAND ____ HARDNESS ____ PH ____ IRON ____ NACL
TYPE TREATMENT USED
IS THERE A DERRICK OVER THE WELL ____ HEIGHT ____ TYPE
CAN TRUCK OR RIG EASILY GET TO WELL
PUMP HOUSE ____ SIZE HATCH

CONTRACT NO. 57-5194

OUR WELL NO. 7 THEIR WELL NO. 7 IN TEST HOLE 1

LOCATION OF THE WELL Southaven, MS

INSTALLED FOR NEPCO Power Plant

B-77

B77

MISSISSIPPI DEPARTMENT OF ENVIRONMEI QUA
Office of Land and Water Reso

P. O. Box 1
Jackson, MS 39289-
WATER WELL DRILLERS

COUNTY WELL LOCATED	DeSoto
WELL NUMBER	MONITORING well Nº 7
CODED	
DATE WELL COMPLETED	6-13-02
PERMIT NUMBER	
NAME OF DRILLING FIRM	LAYNE CENTRAL div OF LAYNE CHRISTENSEN

NAME & MAILING ADDRESS OF LANDOWNER
Southaven Power LLC Cogenerix
9405 Arrowpoint Blvd.
Charlotte, NC 28273-8110

LATitude: 34°59'38"N
LONgitude: 90°02'27"W

WELL LOCATION: SEC	TOWNSHIP	RANGE
15	1 N (S)	8 E (W)

DISTANCE	DIRECTION	NEAREST TOWN
2 Miles	WEST of	Hwy 51

OTHER LANDMARK
Stateline & Hwy 51/NEPCO power

WELL PURPOSE: Home, Irrigation, Municipal, Industrial, Fish Pond, etc.
Industrial water supply

WELL DATA

Well Depth	Casing Diameter (In.)	Casing Length (Ft.)
1426'	4"	1365'

Type of Casing	Hole Depth	Depth to Static Water Level
Sch 40	1426'	131'

TYPE OF COMPLETION: (Circle One or More):
(Gravel Packed), Underreamed, Telescoped, Natural Development, Open Hole, Other (Describe)

WELL GROUTED TO A DEPTH OF 1365' FEET
Type Grout (circle one): Cement, Bentonite, or (Mix)

SCREEN DATA

Diameter - Inches	Length - Feet	Slot Size - Inches
4"	60'	20 slot

Screen Type	Depth to Bottom - Feet
Stainless Steel WW	1426'

PUMP DATA

PUMP TYPE (Circle One):
Submersible, Turbine, Jet, Flowing
Other (Describe) MONITORING well ON

POWER TYPE (Circle One):
Electric, Tractor, Diesel, Gasoline, But
Other (Describe) _____ H/P _____

Pump Capacity (GPM)	No. of Stages	Setting Depth

PUMP TEST
Well yielded N/A GPM w
a drawdown of _____
after _____ hours of pump

LOG DATA

TYPE OF LOG RUN (Circle One): (No Log F)
Electric, Gamma Ray, Density, Sonic, Neut
Other (Describe)

Name of Organization Running Log

GEOLOGIC DATA (Office Use Only)

Surface Elev.	Geologic Unit	Unit Thickness	Depth to T
Subs. SWL	Date	Analysis	Aquifer Te

Driller's Remarks

Top of Lap Pipe or Reduction in Casing
FEET
IF TELESCOPED OR MORE THAN ONE SCREEN: USE BACK PAGE

DESCRIPTION OF FORMATIONS ENCOUNTERED	FROM	TO
(see Attached)		

FORMATIONS (Continued)	FROM	T

IF MORE SPACE IS NEEDED, USE BACK

RECEIVED
SEP 0 3 2002
BY: OLWR

Water level data

This area for location map and notes

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

WELL SCHEDULE

FIPS: 33

WELL: B77

LOG NO.: _____

Recorded by: PPhillips Data Source: Driller's log Date: 12/3/03

County: DeSoto Permit No.: — DOH No.: —

Quad: Horn Lake Elevation: 275

¼: SW ¼: NE ¼: SW ¼: SW Sec.: 15 T: 1S R: 8W

Plotted on quad?: _____ In field? _____ From drillers log? _____ From permit? _____

Latitude: _____ Longitude: _____ GPS? From Driller From Quad? _____

Primary aquifer: WLCX L Secondary aquifer: _____

Use: OB Well status: _____ Local well name: _____

Owner: Southhaven Power LLC

Date completed: 6/13/02 Driller: Layne Central Well depth: 1426 Hole Depth: 1432

Pump type: — Power type: — Pump capacity: — HP: _____

Casing interval: 0-1365 Casing length: 1365 Casing diameter: 4" Casing type: S

Casing interval: _____ Casing length: _____ Casing diameter: _____ Casing type: _____

Screen interval: 1366-1426 Screen length: 60' Screen diameter: 4" Screen type: SS

Screen interval: _____ Screen length: _____ Screen diameter: _____ Screen type: _____

Type of logs: — Log interval: _____

Initial water level: 131' Date: 6/13/02 M.P. description: _____

Water Quality Data? _____ Source: _____ Reliability: _____

Water Level Data? _____ Source: _____ Reliability: _____

Pump Test Data? _____ Source: _____ Reliability: _____

Water Use Data? _____ Source: _____ Reliability: _____
