OFFICE OF CONSERVATION

STATE OF LOUISIANA

IN RE: APPLICATION OF

HELIS OIL AND GAS COMPANY

LACOMBE BAYOU FIELD

DOCKET NO. ENG 14-0626

ST. TAMMANY PARISH

REPORT OF HEARING

HELD AT

MANDEVILLE, LOUISIANA

NOVEMBER 12, 2014

Michelle S. Abadie, CCR

Baton Rouge, Louisiana

OFFICE OF CONSERVATION

STATE OF LOUISIANA

IN RE: APPLICATION OF

HELIS OIL AND GAS COMPANY

LACOMBE BAYOU FIELD

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ST. TAMMANY PARISH

Report of the public hearing held by the Office of Conservation, State of Louisiana, on November 12, 2014, in Mandeville, Louisiana.

IN ATTENDANCE:

REPRESENTING THE OFFICE OF CONSERVATION:

Daniel Henry, Staff Attorney, Hearing Officer

Dave Elfert, Director of Geology

Mark Browning, Petroleum Engineer

John Adams, Staff Attorney

REPRESENTING HELIS OIL AND GAS COMPANY:

RICHARD W. REVELS, JR.
822 Harding Street
Lafayette, Louisiana 70503

BILL DALE
302 La Rue France
Suite 100
Lafayette, Louisiana 70508

MATT JONES
822 Harding Street
Lafayette, Louisiana 70503

TED BOURGOYNE
6006 Boone
Baton Rouge, Louisiana 70808

JOHN CONNER
2211 Norfolk
Suite 1000
Houston, Texas 77098-4054

REPRESENTING TOWN OF ABITA SPRINGS:

LISA W. JORDAN
CAROLINE WICK
Tulane Environmental Law Clinic
6329 Feret Street
New Orleans, Louisiana 70118

MARK QUALES
P.O. Box 58302
Nashville, Tennessee 37205

MAYOR GREG LEMONS
22161 Level Street
Abita Springs, Louisiana 70420

REPRESENTING:

SENATOR JACK DONAHUE'S OFFICE
P.O. Box 896
Mandeville, Louisiana 70470

REPRESENTING CONCERNED CITIZENS OF ST. TAMMANY:

MARIANNE CUFONE
540 Broadway Street
New Orleans, Louisiana 70118

REPRESENTING CONCERNED CITIZENS OF ST. TAMMANY:

RICK FRANZO
59152 West Harbor
Lacombe, Louisiana 70445

DONALD LEE
960 Rue Chantilly
Mandeville, Louisiana 70471-1204

GORDON CAIN
321 Oak Drive
Mandeville, Louisiana 70471

TOM HINES
Slidell, Louisiana

REPRESENTING CONCERNED CITIZENS OF ST. TAMMANY:

PHILIP SIPOS
RUTH TERRY-SIPOS
71627 Leveson Street
Abita Springs, Louisiana 70420

PAULA BORNE
28550 Miss Lou Street
Lacombe, Louisiana 70445

BELINDA PARKER-BROWN
1022 11th Street
Slidell, Louisiana

TERRY LEWIS STEVENS
725 Dove Park Road
Covington, Louisiana 70433

REPRESENTING LEAGUE OF WOMEN VOTERS OF ST. TAMMANY:

BARBARA DODDS
143 Tchefuncte Drive
Covington, Louisiana 70433

REPRESENTING NORTHSHORE BUSINESS COUNCIL:

LARRY RASE
520 Heavens Drive
Mandeville, Louisiana 70471

REPRESENTING GNO, INC.:

DINO PATERNOSTRO
4620 Hessmer Avenue
Metairie, Louisiana 70002

REPRESENTING LOWER PEARL RIVER WATERSHED CONSERVATION PROGRAM:

JANICE OBERRY
37093 Howard Oberry Road
Pearl River, Louisiana 70452

REPRESENTING SIERRA CLUB:

DARRYL MALEK-WILEY
618 Adams Street
New Orleans, Louisiana 70118

REPRESENTING THE LEAGUE OF WOMEN VOTERS OF LOUISIANA:

SANDRA SLIFER
116 Tulip Drive
Covington, Louisiana 70433

REPRESENTING ST. TAMMANY LAND COMPANY, LLC.

LOUIS BUETT (phonetic)
St. Tammany Parish

REPRESENTING THE WATERWAYS JOURNAL:

RICHARD EBERHARDT
14403 Riverlake Drive
Covington, Louisiana 70435

SPEAKERS REPRESENTING SELF:

IAN SOMERHALDER
(No address given)

CINDY REIHER
702 Stonewood Drive
Covington, Louisiana 70433

CARL HELWIG
523 Legendre Drive
Slidell, Louisiana 70460

EMMA VILLAMARETTE
26500 Lucille Drive
Lacombe, Louisiana

ARMAND RICHARDSON
79 Parc Place
Mandeville, Louisiana 70471

JACOB B. GROBY, III
29354 Lyon Lane
Lacombe, Louisiana 70445

SPEAKERS REPRESENTING SELF:

CHARLES GOODWIN
2075 Lakeshore Drive
Mandeville, Louisiana 70448

EUNICE PRICE
109 Blackbeard Drive
Slidell, Louisiana 70461

JAMES BLAZEK
62322 Fish Hatchery Road
Lacombe, Louisiana 70445

ROBERT JEWETT
69 Walnut Place
Covington, Louisiana 70433

CHUCK KIRBY
605 Tanager Drive
Mandeville, Louisiana 70448

REED MCCLINTOCK
511 Gentwood Drive
Covington, Louisiana 70433

SPEAKERS REPRESENTING SELF:

DAVID EASLEY
310 35th Avenue
Covington, Louisiana 70433

JOHN LEA
MARION LEA
826 Old Landing Road
Covington, Louisiana 70433

MAURICE DUPRE
21041 Nolan Lane
Covington, Louisiana 70433

KENNETH KEHOE
59246 Cypress Bayou Lane
Lacombe, Louisiana 70445

VIRGINIA FORTSON
2036 Monroe Street
Mandeville, Louisiana 70448

SPEAKERS REPRESENTING SELF:

KURT PEARSON
26270 Heltemes Lane
Lacombe, Louisiana 70445

KELLY KREMINSKI
110 Brookstone Drive
Covington, Louisiana 70433

DONALD HAYES
30214 Titus Smith Road
Lacombe, Louisiana 70445

CINDY BROOKING
23015 Highway 1084
Covington, Louisiana 70433

MARGIE VICKNAIR-PRAY
27400 John Lane
Lacombe, Louisiana 70445

CASSANDRA KREBS
50 Pine Road
Covington, Louisiana 70433

SPEAKERS REPRESENTING SELF:

JOHNMICHAEL MYHALL
1110 Forest Lane
Mandeville, Louisiana 70471

DIANA NORTON
58565 Elenore Drive
Lacombe Louisiana 70445

STEPHANIE GRAY
69 Walnut Place
Covington, Louisiana 70433

CATHY O'HAIRE
82181 Highway 1082
Bush, Louisiana 70431

MIKE STAGG
200 Fox Run
Lafayette, Louisiana 70508

CHARLES PEARSON
525 Dove Park
Covington, Louisiana 70433

SPEAKERS REPRESENTING SELF:

MELISSA PEARSON
642 Dean Street
Mandeville, Louisiana 70448

OTHERS PRESENT - REPRESENTING SELF:

MELISSA BIER
3330 Knoll Court
Mandeville, Louisiana 70448

EMILYE J. GRANT
5534 Sandlewood Court
Slidell, Louisiana 70460

JACKIE MARCUSSELL
P.O. Box 126
Abita Springs, Louisiana 70420

REYNALDO G. GRANT
5534 Sandlewood Court
Slidell, Louisiana 70460

REPRESENTING SELF:

CHLOE WOODBURN
1612 Destin Street
St. Tammany Parish

JOHN PREBLE
71563 St. Joseph Street
Abita Springs, Louisiana 70420

TYLER J. WILSON
73131 Plantation Street
Covington, Louisiana 70435

JOHN DELCHAMPS
CHERYL DELCHAMPS
1710 Dupre Street
Mandeville, Louisiana 70448

DEBRAH BUCHER
225 Estate Drive Street
Mandeville, Louisiana 70448

REPRESENTING SELF:

CLAIRE D. THOMAS
19170 Antenor Street
Mandeville, Louisiana 70471

HOWARD LEVY
311 Goldenwood
Mandeville, Louisiana 70448

KAITLYN MILLER
76175 Highway 1083
Covington, Louisiana 70435

DANI DELEO
3090 Walden Place
Mandeville, Louisiana 70448

CELESTE WATT
1218 West 11th Avenue
Covington, Louisiana 70433

RHONDA LANDRY
403 Red Maple Drive
Mandeville, Louisiana 70448

REPRESENTING SELF:

JEANNE HUTCHISON
28498 Lake Drive South
Lacombe, Louisiana 70445

THOMAS QUINLAN
236 East Street
Mandeville, Louisiana 70448

JOHN VAN BRUNT
276 East Street
Mandeville, Louisiana 70448

JASON POWELL
1834 America Street
Mandeville, Louisiana 70448

CINDY WATTS
MICAH WATTS
2423 Rue Pickney
Mandeville, Louisiana 70448

REPRESENTING SELF:

VIRGINIA BLANCHARD
698 Woodburn Loop
St. Tammany Parish

MICHAEL GIAFAGLEONE
1065 Dove Park Road
Covington, Louisiana 70433

BELVA LOCKER
342 Huntington Drive
Slidell, Louisiana

JOHN V. SEAGO
116 East 14th Avenue
Covington, Louisiana 70433

ELAINE MULLER
113 Bishops Drive
Slidell, Louisiana 70458

ELIZABETH BRAGDON
503 South Vermont Street
Covington, Louisiana 70433

REPRESENTING SELF:

SHANNON DERKSEN
635 Bon Temps Roule
Mandeville, Louisiana 70471

PAUL O. LICCIARDI
2434 Mathis Street
Mandeville, Louisiana 70448

ERIN POWELL
1834 America Street
Mandeville, Louisiana 70448

MARY KATHERINE SIMMONS
266 Deval Drive
Mandeville, Louisiana 70471

SUSAN TALMAGE TARASOVA
1222 West 18th Avenue
Covington, Louisiana 70433

LINDA NINA HELFORT
208 Devon Drive
Mandeville, Louisiana 70448

REPRESENTING SELF:

LIZ GARY
2154 West Ridge Drive
Mandeville, Louisiana 70448

ROY NESBIT
JOY NESBIT
TYLER NESBIT
TIFFANY ANGEL NESBIT
ODILE BOUDREAUX
30060 North Dixie Ranch Road
Lacombe, Louisiana 70445

ROBERT ROSSANI
LORETTA ROSSANI
22535 Sharp Chapel Road
Bush, Louisiana 70431

ERNIE SAAVERDRA
(No address given)

JAN P. JUMONVILLE
24 Magnolia Gardens Drive
Covington, Louisiana 70435

REPRESENTING SELF:

MARY DAVIE
P.O. Box 425
Abita Springs, Louisiana 70420

TASHA LAFONT
3005 Eleanor Lane
Covington, Louisiana 70433

MICHAEL DURYEA
ANDREW DURYEA
KIM DURYEA
JENNA DURYEA
TRAVS DURYEA
1339 America Street
Mandeville, Louisiana 70448

KAITLIN EARLY
New Orleans, Louisiana

KENT DUSSOM
1309 South Louisiana Street
Covington, Louisiana 70433

REPRESENTING SELF:

STEVE JONES
AMY JONES
1329 America Street
Mandeville, Louisiana 70448

MATT JEANNSONNE
1367 America Street
Mandeville, Louisiana 70448

SUZZANNE LYLES
Mandeville, Louisiana 70448

MARK STIEN
ANGELIQUE STIEN
1349 America Street
Mandeville, Louisiana 70448

HALEY SIMMS
3037 Lake Court
Mandeville, Louisiana

REPRESENTING SELF:

BRIAN MOSBEY
CHRISTINA MOSBEY
1030 River Court
Mandeville, Louisiana 70448

GLORIA TOTH
76176 Tantela Ranch Road
Covington, Louisiana 70435

THOMAS R. NOWAK
PHYLLIS NOWAK
2106 Olvey Drive
Mandeville, Louisiana 70448

JENNY GRANIER
8 Woodlawn Drive
Covington, Louisiana 70433

BRENDA ARGIZ
68105 Highway 41
Pearl River, Louisiana 70452

REPRESENTING SELF:

BOBBI LADERER
28475 Highway 190
Lacombe, Louisiana 70445

RON BURCH
CAROL B. BURCH
461 Aspen Lane
Covington, Louisiana 70433

ANDERSON COSBY
ANDREE COSBY
ETHAN COSBY
65575 Holly Street
Mandeville, Louisiana 70448

PATRICK COCKRAN
1021 Thrush Drive
Mandeville, Louisiana 70448

GEORGE BOESCH
1218 South Ridge
Mandeville, Louisiana 70448

REPRESENTING SELF:

PAUL LAWLESS
321 Neil Avenue
New Orleans, Louisiana

LOGAN HOWELL
1930 Caroline Street
Mandeville, Louisiana 70448

CHARLES CHARTIER
4880 Sharp Road
Mandeville, Louisiana 70471

RICK RICHARDSON
590985 Pine Bay Lane
Lacombe, Louisiana 70445

GARRETT AQUISTAPACE
19400 Wildwood Lane
Covington, Louisiana 70435

LAWRENCE W. HAIK, SR.
1539 Royal Palm Drive
Slidell, Louisiana 70458

REPRESENTING SELF:

LANNY CAZAUX
225 East Street
Mandeville, Louisiana 70448

Frederick W. Cooper
27144 Highway 40
Bush, Louisiana 70431

MARK MITCHELL
69345 Louisiana Industrial Pit Road
Pearl River, Louisiana

SHERRI L. BARTON
81417 Bealer Road
Bush, Louisiana 70431

CYNTHIA SCHMIDT
59275 Pine Bay Lane
Lacombe, Louisiana 70445

AMY BLOSSMAN
920 Village Walk
Covington, Louisiana 70433

REPRESENTING SELF:

J.L. BOLLICH
LIBBY BOLLICH
221 Orleans Avenue
Covington, Louisiana 70432

SCOTT EUSTIS
Gulf Restoration Network
2317 Ursulines Avenue
New Orleans, Louisiana 70119

DICK BLOSSMAN
400 Country Club Drive
Covington, Louisiana 70433

JOSEPH GRIMLEY
1106 Fairfield Court
Mandeville, Louisiana 70448

KEN PIERRO
323 Red Maple Drive
Mandeville, Louisiana 70448

REPRESENTING SELF:

ELIZABETH WITHERN
278 Chestnut Oak Drive
Mandeville, Louisiana 70448

REN CLARK
420 Carroll Street
Mandeville, Louisiana 70448

BARBARA BREAUX
62292 Fish Hatchery Road
Lacombe, Louisiana 70445

CARLO HERNANDEZ
2817 Mesa Court
Mandeville, Louisiana 70448

PAUL STONE
315 Lee Lane No. 101
St. Tammany Parish

POLLY ANDERSON
67374 Hiern Road
Mandeville, Louisiana 70471

REPRESENTING SELF:

ADRIENNE JUTTNER
72256 Kustenmacher Road
Abita Springs, Louisiana 70420

GREG CROW
30303 Sticker Bay Road
Lacombe, Louisiana 70445

CYNTHIA RESTER
64328 Fish Hatchery Road
Lacombe, Louisiana 70445

LUCY TIERNEY
215 Michigan Avenue
Slidell, Louisiana

MARTHA STEWART
131 Mossy Oaks
Slidell, Louisiana 70458

DEBORAH BURST
22123 Rue Coquille
Mandeville, Louisiana 70471

REPRESENTING SELF:

SHANNON VILLEMARETTE
26500 Lucille Drive
Lacombe, Louisiana 70445

HUNTER CHARBONNET
16423 Summerhill Road
Covington, Louisiana

WALTER LINKS, JR.
24615 Highway 190
Lacombe, Louisiana

MARTA BADON
59591 Badon Road
Slidell, Louisiana

SHELLEY PRICE
2184 Dupre Street
Mandeville, Louisiana 70448

VINNY MENDOZA
38818 Drott Lane
Ponchatoula, Louisiana 70454

REPRESENTING SELF:

GREGG TEPPER
MAX TEPPER
1408 Nelson Court
Mandeville, Louisiana 70448

MICHAEL MANINT
SUZANNE MANINT
22469 Hoffman Road
Mandeville, Louisiana 70471

TORI BAZER
Madisonville, Louisiana

PETER MCENERY
MARTHA MCENERY
74519 Military Road
Covington, Louisiana 70435

BEN GORDON
P.O. Box 71443
New Orleans, Louisiana

REPRESENTING SELF:

JOHN COWAN
1187 Scarlet Oak Lane
Mandeville, Louisiana

JOHN LEWIS
23544 North Heidi Drive
Covington, Louisiana 70435

MARILYN MORRISSE
72114 Stephen Street
Abita Springs, Louisiana

DR. MICHAEL FINN
1317 Livingston Street
Mandeville, Louisiana 70448

BARRY LEWIS
6513 Lauren Drive
Slidell, Louisiana 70460

LAWRENCE KEVIN COLEMAN
111 Chinchuba Gardens
Mandeville, Louisiana 70471

REPRESENTING SELF:

REVEREND ROBERT H. BELKNAP, J.D.
37148 West Powerline Road
Pearl River, Louisiana 70452

PHILLIP THEODORE KEHOE
JACINTA KEHOE
525 South Vermont Street
Covington, Louisiana 70433

JAMIE FOSTER
71540 St. Charles Street
Abita Springs, Louisiana 70420

KRISTEN STANLEY
73196 Louisiana Avenue
Covington, Louisiana 70435

JULIE ANDREWS
6421 Lauren Drive
Slidell, Louisiana

REPRESENTING SELF:

KATHLEEN PATTON
24254 Lowe Davis
Covington, Louisiana 70435

GARY LEONARD
675 Kiskatom Lane
Mandeville, Louisiana 70471

GALYN WRIGHT
74355 Highway 437
Covington, Louisiana 70435

CATHERINE HAUCK
22088 3rd Street
Abita Springs, Louisiana

JOHN HERASYMIUK
NIKOLE HERASYMIUK
82122 North Huckleberry Lane
Bush, Louisiana 70431

REPRESENTING SELF:

LARA BATCHELDER
66155 Hickory Street
Mandeville, Louisiana

ROBERT CUPPAY
P.O. Box 414
Lacombe, Louisiana 70445

DOUG CLONINGER (phonetic)
St. Tammany Parish

CHARLEY MARCUSSEN
24187 Sunny Meadow Drive
Abita Springs, Louisiana 70420

HENRY A. MCENERY, III
LIBBA MCENERY
5127 Laurel Street
New Orleans, Louisiana 70115

LISA KNICKERBOCKER
103 North Drive
Covington, Louisiana 70433

REPRESENTING SELF:

RONALD ANTHON
39631 Grave Road
Ponchatoula, Louisiana

KORT HUTCHINSON, SR.
28498 Lake Drive
Lacombe, Louisiana 70445

FOX STROUD
North Dorgenois Street
New Orleans, Louisiana

MARYLEE ORR
P.O. Box 66323
Baton Rouge, Louisiana 70896

DENNY LARSON
Richmond, California

ROBERT PAUL WALDRON
69200 Shirer Court
Mandeville, Louisiana 70471

REPRESENTING SELF:

FRANK PEARSON
39000 Henry Road
Pearl River, Louisiana

LAUREN CHAUVIN
619 Woodvale Avenue
Lafayette, Louisiana 70503

MARGARET TINGLE
6740 Alisa Drive
Slidell, Louisiana 70460

BETH LADERER
P.O. Box 177
Lacombe, Louisiana 70445

THERESA SCHELLEN (phonetic)
575 Barbara Place
Mandeville, Louisiana

REGINA BENTON
72155 Laurel Street
Abita Springs, Louisiana

REPRESENTING SELF:

VICKIE KELLEY
23329 Oscar Street
Mandeville, Louisiana

TOM MILLER
Mandeville Louisiana 70448

GEORGE BURCH
CLARE BURCH
31344 South Tranquility Road
Lacombe, Louisiana 70445

LINDA LEWIS
66096 Cypress
Mandeville, Louisiana 70448

PAULETTE CLAROS
43 Caltalpa Trace
Covington, Louisiana 70433

KIM PICOU
21203 Ohio Road
Abita Springs, Louisiana 70420

REPRESENTING SELF:

CARMEN CREEL
ROBBIE CREEL
2626 Toulander Street
Mandeville, Louisiana 70448

JOHN NAQUIN
JULIE NAQUIN
440 Westwood Drive
Mandeville, Louisiana 70471

FRANK MULLER
113 Bishops Drive
Slidell, Louisiana 70458

LANCE CAPPEL
28278 Cappel Road
Harahan, Louisiana

ANDREW JACOBY
200 Carondelet #1905
New Orleans, Louisiana 70130

REPRESENTING SELF:

ADAM ROWE
2006 Red Oak Lane
Mandeville, Louisiana 70448

DOREEN PICONE
71476 Parc Wood Drive East
Covington, Louisiana

DAVID BALCER
952 Morgan Bluff Road
Pearl River, Louisiana

TAYLOR SUTTON
203 Black Jack Oak Drive
Madisonville, Louisiana 70447

CRYSTAL GIARDINA
504 Garden Lane
Madisonville, Louisiana 70447

M. DESSOMMES
22200 Main Street
Abita Springs, Louisiana 70420

REPRESENTING SELF:

BRIANNA STINSON
12806 Bankston Road
Amite, Louisiana 70422

RUTH HICKS
44 Zinnia Drive
Covington, Louisiana 70433

RENE PUISSEGUR
737 Sweet Bay Drive
Mandeville, Louisiana 70448

JONI USNER
80181 Bob Baxter Road
Bush, Louisiana 70431

STELLA MILLER
2337 Monroe Street
Mandeville, Louisiana

ISABEL NICODEMUS
120 Catalpa Lane
Mandeville, Louisiana 70471

REPRESENTING SELF:

ABBY SANDS
2337 Monroe Street
Mandeville, Louisiana 70448

CATHERINE WEST
431 Magnolia Lane
Mandeville, Louisiana

MAGDALENA RANGAN
SETLAR RANGAN
69078 4th Avenue
Covington, Louisiana 70433

REINA SOLARO
Sulphur Springs, Louisiana

JAY SAUX
514 East Boston Avenue
Covington, Louisiana 70433

TYLER BIER
3330 Knoll Court
Mandeville, Louisiana 70448

REPRESENTING SELF:

LINDA RINGBLOOM
MANDY RINGBLOOM
ERIC RINGBLOOM
23398 Elm Street
Mandeville, Louisiana 70448

COURTNEY TEMPLET
3971 Pharr Street
Metairie, Louisiana 70002

LORA CUTRER
39236 Oak Street
Pearl River, Louisiana 70452

GERARD BARBIER
80703 Highway 1083
Bush, Louisiana 70431

JACOB DEBRAM, JR.
39205 Craddock Lane
Pearl River, Louisiana 70452

REPRESENTING SELF:

PETE KELLY
4 Weilwood Drive
Slidell, Louisiana

SUZANNE COHEN
70094 Nancy Road
Mandeville, Louisiana 70471

RON CUCZIA
28198 Onzaga Street
New Orleans, Louisiana 70119

WENDEE SHUFF
308 Pineridge Street East
Mandeville, Louisiana

DR. E.J. WINCHELL
136 Cheron Drive
Mandeville, Louisiana

KENNETH JENKINS
30300 Watts-Thomas Road
Bush, Louisiana 70437

REPRESENTING SELF:

JOHN S. MICELI, III
1454 Sycamore Place
Mandeville, Louisiana 70448

ROGER SPIESS
28578 Clesi Avenue
Lacombe, Louisiana

SCOTT DISCON
142 Carroll
Mandeville, Louisiana 70448

ALLEN BEALLE
26077 Little Fawn Street
Lacombe, Louisiana 70445

BERNADETTE GALATAS
255 Carriage Pines
Covington, Louisiana

ERICA FOLSE
71514 St. John Street
Abita Springs, Louisiana 70420

REPRESENTING SELF:

MILES LERITTE
SYLVIA LERITTE
61320 Kings Arms Drive
Lacombe, Louisiana

ROBERT BAKER
28480 Roan Lane
Lacombe, Louisiana 70445

ELLEN STEIGMAN
171 Woodside Drive
Mandeville, Louisiana

RICHARD OLANO
DARLENE OLANO
120 Amelia Lane
Covington, Louisiana

JEAN WIGGIN
71599 Leveson Street
Abita Springs, Louisiana 70420

REPRESENTING SELF:

BILLIE BROWN
DARRYL BROWN
WILL BROWN
SHELLEY HICKMAN
23033 Ray Keen Road
Covington, Louisiana

BARBARA MATTINGLY
19180 Wymer Road
Covington, Louisiana 70435

LEONARD BREAUX
ALICIA BREAUX
74355 Highway 437
Covington, Louisiana 70435

REBECCA PAUL
23418 Silver Springs Drive
Abita Springs, Louisiana 70420
REPRESENTING SELF:

REPRESENTING SELF:

KIRK STEEN
223 Delta Drive
Mandeville, Louisiana 70448

PAUL KOSBAB
287 Rue Piper
Slidell, Louisiana 70461

JOHN KOEPPEL
MONICA KOEPPEL
31007 Old Todd Road
Lacombe, Louisiana 70445

CRISTEL ROESCH
223 Delta Drive
Mandeville, Louisiana 70448

ROC PAUL
23418 Silver Springs
Abita Springs, Louisiana 70420

REPRESENTING SELF:

MELISSA GASCON
645 Tete Lours
Mandeville, Louisiana 70471

MANDANE EASLEY
310 West Street
Mandeville, Louisiana 70448

GIGI SAVONA
239 Jackson Avenue
Mandeville, Louisiana

ADELAIDE LOWREY
27 Chamale Cove
Slidell, Louisiana 70460

KIRSTIE COWAN
1187 Scarlet Oak
Mandeville, Louisiana 70448

AMY KUSSMANN
27 Chamale Cove
Slidell, Louisiana 70460

REPRESENTING SELF:

SIME RESTOVIE
VICTORIA REVELS RESTOVIC
1048 Tallowtree Drive
Mandeville, Louisiana

SANDRA TAYLOR-PETERSEN
155 Belle Terre Boulevard
Covington, Louisiana

DOUG ALLEN
317 Shady View Lane
Covington, Louisiana

ANGEL SEPULVADO
2903 Monroe Street
Mandeville, Louisiana 70448

BONNIE EADES
241 Nicklaus Drive
Slidell, Louisiana 70458

REPRESENTING SELF:

DENNIS LAVOIE
DAWN LAVOIE
233 Jackson Avenue
Mandeville, Louisiana

SAL GIANGRUSSO
618 West 14th
Covington, Louisiana

ZOE DIMITRIOS
188 Sandra Lee Drive
Mandeville, Louisiana 70448

TRICIA MEHAFFEY
752 Mitchum Road
Madisonville, Louisiana 70447

JO BAUDOIN
511 Chinquapin Circle
Covington, Louisiana

REPRESENTING SELF:

PAUL ORR
1373 Crescent Drive
Baton Rouge, Louisiana 70806

LEANN PINNIGER-MAGEE
22195 Grover Street
Abita Springs, Louisiana 70420

CLANCEY ANDERSON
66081 Oak Street
Mandeville, Louisiana

PATRICIA CARBAJAL
DANIEL REINHOLD
72512 Kustenmacher Road
Abita Springs, Louisiana 70420

KAYSEY HASSLOCK
1317 Livingston Street
Mandeville, Louisiana 70448

REPRESENTING SELF:

B. MCCOOL
NANINE MCCOOL
24665 Esquinance Street
Lacombe, Louisiana 70445

BONNIE GUMPERT
200 Ryan Avenue
Abita Springs, Louisiana

JAMIE SEGURA
102 Woods Drive
Madisonville, Louisiana

SADIE ORDES
114 Chestnut Street
Mandeville, Louisiana 70471

JEANNINE MEEDS
P.O. Box 1546
Lacombe, Louisiana 70445

REPRESENTING SELF:

PATRICK LERA
3010 Canaan Place
Mandeville, Louisiana 70448

KATHREINE FREMIN
1664 Hood Avenue
Baton Rouge, Louisiana 70808

RANDI KELLY
MONICA KELLY
22051 Crain Street
Abita Springs, Louisiana

GEORGE BOUDREAUX
DEBORAH BOUDREAUX
15054 Brewster Road
Covington, Louisiana 70433

DEIDRE DEVIER
27 Azelea
Covington, Louisiana

REPRESENTING SELF:

JENNIFER BASS
3319 Knoll Court
Mandeville, Louisiana 70448

MARY BETHANY-LONGSTREET SIMMONS
266 Deval Drive
Mandeville, Louisiana 70471

CAMILLE GARCIA
LILY GARCIA
705 Colony Place
Jefferson Parish, Louisiana

RICHARD LEONHARD
10113 Tiffany Drive
New Orleans, Louisiana 70123

JOEL BLAZEK
111 Affirmed Court
Bush, Louisiana 70431

REPRESENTING SELF:

PAULETTE BARRAS
3235 Rama Street
Slidell, Louisiana 70458

KATHERINE SMITH
305 Timberlane Drive
Slidell, Louisiana 70458

MARK SEGHERS
250 Calumet Drive
Madisonville, Louisiana 70447

EUGENIA GONZALES
Mandeville, Louisiana

DEBORAH HUSSEY
375 Winchester Circle
Mandeville, Louisiana 70447

CARLTON MICKLE
AIMEE ANDERSEN
512 Cross Gates Boulevard
Slidell, Louisiana 70461

REPRESENTING SELF:

JUDITH SMITH
401 West 15th Avenue
Covington, Louisiana 70433

PIPER BURCH
404 Fremaux Avenue
Slidell, Louisiana 70458

BRIDGETTE BURCH
32380 Bayou Paquet Road
Slidell, Louisiana 70460

TOM GREENE
ANITA GREENE
71484 Warren Street
Abita Springs, Louisiana 70420

BARBARA HENRY
725 South Jefferson Avenue
Covington, Louisiana

REPRESENTING SELF:

JODY CAGLE
518 West 6th Avenue
Covington, Louisiana 70433

SANDRA DONEY
3807 Brookwood Drive
Slidell, Louisiana 70458

MARY LYNN GAGNON
600 Coffee Street
Mandeville, Louisiana 70448

GAIL ORDES
300 Audubon Drive
Mandeville, Louisiana 70471

KRISTEN ANDRUS
18 Curry Court
Metairie, Louisiana

ASHLEY LANDRY
110 Jay Street
Belle Chasse, Louisiana

REPRESENTING SELF:

JULIE DERMANSKY
Metairie, Louisiana

SHERRY BANDY-MANSION
318 East Boston Street
Covington, Louisiana 70433

LOUIS HENSCHEN
22168 6th Street
Abita Springs, Louisiana 70420

ERICA MATACONIS
350 Lucia Lane
Mandeville, Louisiana 70448

BAILEIGH EVANS
2189 Rue Pickney
Mandeville, Louisiana 70448
DESTIN BLANC
1143 Cawson Street
Mandeville, Louisiana 70448

REPRESENTING SELF:

KAREN DUFRENE
60175 West Park Circle
Lacombe, Louisiana 70445

WILLIAM MEY
SUELLYN MEY
13289 Mimosa Drive
Folsom, Louisiana

LEONARD SCHMIDT
59275 Pine Bay Lane
Lacombe, Louisiana 70445

JAY CONKE (phonetic)
100 East Park Place
New Orleans, Louisiana 70124

HAZEL SINCLAIR
16583 Bricker Road
Covington, Louisiana 70433

REPRESENTING SELF:

RANDY PAILLE
DEBRA PAILLE
820 Preval Street
Mandeville, Louisiana 70448

STEVE BARTON
81417 Bealer Road
Bush, Louisiana 70431

ROBIN COLLINS
70162 Archie Singletary
Pearl River, Louisiana

HARRIET STAFFORD
Madisonville, Louisiana

EILEEN DEHARO
2031 Rue Pickney
Mandeville, Louisiana 70448

KAREN GRIGGS
747 Place St. Etienne
Covington, Louisiana 70433

REPRESENTING SELF:

DELLA ROSE PERKINS
101 Gratitude Drive
Covington, Louisiana 70433

LARRY CHAPOTON
PEGGY CHAPOTON
240 Jacqueline Drive
Slidell, Louisiana 70458

BRUCE WARNER
Metairie, Louisiana

BILLIE STANGA
415 North Vermont
Covington, Louisiana 70433

E. VAN SANT
603 West 24th Avenue
Covington, Louisiana

LYNN GURTNER
328 Fountains Park Boulevard
Mandeville, Louisiana 70448

REPRESENTING SELF:

WILLIAM BOND
29062 Little Dixie Ranch Road
Lacombe, Louisiana 70445

JAMES JACKSON
P.O. Box 517
Jackson, Louisiana 70748

ANN BLOSSMAN
200 Bayberry Drive
Covington, Louisiana 70433

PAULA BORDMAN
76337 Robinson Drive
Folsom, Louisiana 70437

IAN CALVERT
KARIN CALVERT
77201 Clear Creek Drive
Folsom, Louisiana 70437

REPRESENTING SELF:

AMY BAPTIST
71518 St. John Street
Abita Springs, Louisiana 70420

LEN GRIGGS
747 Place St. Etienne
Covington, Louisiana

TRACEY STENGER
1981 West Ridge Drive
Mandeville, Louisiana 70448

BRUCE BARTON
DIANE CASTEEL
1111 Carroll Street
Mandeville, Louisiana 70448

REID FALCONER
67 Magnolia Ridge Drive
Madisonville, Louisiana 70447

REPRESENTING SELF:

WAYNE MORLIER
JEANIE MORLIER
531 Normandy Drive
Folsom, Louisiana

JUDITH JONES
3433 Highway 190 #375
Mandeville, Louisiana 70471

ADRIAN BARTON
60589 Cypress Drive
Lacombe, Louisiana

VIRGINIA LANGLAND
9078 Gravois Lane
Maringouin, Louisiana

ANDRE OLAZUIS (phonetic)
2073 West Ridge Drive
Mandeville, Louisiana

REPRESENTING SELF:

SHANNON B. LEGER
62143 Serenity Circle
Lacombe, Louisiana 70445

RICHARD BOYD
327 Marigny Avenue
Mandeville, Louisiana 70448

B. THOMAS SCHEIB
2019 South Massachusetts Street
Covington, Louisiana 70437

JAMES A. YOUNG
NOREEN YOUNG
25502 Red Wing Lane
Bush, Louisiana 70431

JOHN DAVIS
8016 Elizabeth Lane
Mandeville, Louisiana 70448

REPRESENTING SELF:

LENA COLLINS
P.O. Box 130
Fish Hatchery Road
Lacombe, Louisiana

GEORGE MCDERMOT
ANNABELLE MCDERMOT
12580 Rue Weller
Mandeville, Louisiana 70448

MEGHAN LEE
85155 Highway 87
Covington, Louisiana 70435

FRANK WHITE
76437 Bob Levy Road
St. Bernard Parish, Louisiana

SCOTT OWENS
1796 Garon Drive
Mandeville, Louisiana 70448

REPRESENTING SELF:

CHERYL WAGNER
BILL DAVIS
4650 Pontchartrain Drive, Unit R
Slidell, Louisiana 70460

JOYCE TUJAGUE
607 Hutchinson Street
Mandeville, Louisiana

BERNARD SMITH
CARRIE SMITH
P.O. Box 2574
Mandeville, Louisiana 70470

HUNTER SIMONSON
170 Devon Drive
Mandeville, Louisiana 70448

EARL MENDOZA
153 Cherry Creek
Mandeville, Louisiana 70448

REPRESENTING SELF:

WILLIAM MATTINGLY
19180 Wyman Road
Covington, Louisiana

CATHY MCFARLAND (phonetic)
JACK MCFARLAND
1353 State Street
Mandeville, Louisiana

TOM LINCOLN
474 Vireo Drive
Mandeville, Louisiana

SHEILA DELACROIX
Tyler Street
Covington, Louisiana 70433

DARYL LAMEER
DEB LAMEER
2931 Desert Court
Mandeville, Louisiana 70448

REPRESENTING SELF:

KEITH GLOVER
MARY JANE GREENLAW
36048 Marshwind Lane
Slidell, Louisiana 70460

PHILIP JAMES
843 River Oaks Drive
Covington, Louisiana 70433

PAMELA HERNANDEZ
2640 Mandane Drive
Lacombe, Louisiana 70445

KERI KRYCKI (phonetic)
403 Shakespeare Lane
Mandeville, Louisiana

AMANDA EYES-DELCHAMPS
BRYAN DELCHAMPS
240 Partridge Street
Mandeville, Louisiana

REPRESENTING SELF:

BARBARA JACKSON
22052 8th Street
Abita Springs, Louisiana 70420

WALTER BARBIER
22352 Main Street
Abita Springs, Louisiana

ANDREW THIEL
71231 Bay Drive
Covington, Louisiana 70433

BILL MCCOY
ANNA MCCOY
801 Massena Street
Mandeville, Louisiana 70448

PAT HIHAR
1180 Soult Street
Mandeville, Louisiana 70448

REPRESENTING SELF:

ROBIN WENDT
2919 Desert Court
Mandeville, Louisiana 70448

AURELIA MAUK (phonetic)
15135 Brewster Road
Covington, Louisiana 70433

L.V. DELAVERGNE
71332 Riverside Drive
Covington, Louisiana 70433

BOB MENARD
34194 Camellia Farm Lane
Slidell, Louisiana 70460

JEREMY GILLESPIE
Mandeville, Louisiana

JAE LEVY
311 Goldenwood
Mandeville, Louisiana

REPRESENTING SELF:

RON BAXTER
APRIL BAXTER
1531 Marigny Boulevard
Mandeville, Louisiana 70448

BETHANY GEX
1856 Labarre Street
Mandeville, Louisiana 70448

NANCY CANADA
JESSICA RABALAIS
1470 Broadmoor Drive
Slidell, Louisiana 70458

WILLIAM BERNARD
81444 Highway 1083
Bush, Louisiana

ROY K. BURNS, JR.
335 North New Hampshire Street
Covington, Louisiana 70433

REPRESENTING SELF:

JOYCE M. SHORT
1157 Scarlet Oak Lane
Mandeville, Louisiana 70448

ELIZABETH IMPASTATO
58529 Elenore Drive
Lacombe, Louisiana 70445

MEGHAN STEMKIE
7005 Wilty Street
Metairie, Louisiana

JACOB DEBRAM
39205 Craddock Lane
Pearl River, Louisiana 70452

LINDA HAWKINS
22277 Main Street
Abita Springs, Louisiana 70420

DYANE MITCHELL
1427 Clover Street
Mandeville, Louisiana 70448

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DOCKET NO. ENG 14-0626

LACOMBE BAYOU FIELD

* * * *

MR. HENRY:

Good afternoon, and welcome to the Office of Conservation hearing for Docket No. ENG 14-626. My name is Daniel Henry, and I am an attorney with the Office of Conservation. I have been designated as the hearing officer by the Commissioner for tonight's hearing.

I would first like to thank Superintendent Trey Folse, Principal Wagner, Assistant Principal Alleman, the Mayor for the PA system, and all the others here at Lakeshore High who assisted the Office of Conservation in holding this hearing here.

The Commissioner chose to hold the hearing here in St. Tammany Parish so that the citizens could be here to witness the presentations on both sides of the issue and to make it easier for the citizens to offer their statements in support of or in opposition to the well permit application being discussed today.

My duty as the hearing officer is to make sure that a clear and accurate record of these proceedings is made. Please do not disrupt the testimony, presentations, or any of the comments of the speakers

or presenters, as such only tends to distort or mask the recording and makes the job of the court reporter more difficult.

At this time, I ask if anyone has a cell phone or a pager or any other type of PDA-type device, if you would turn those off, it would be appreciated.

AUDIENCE MEMBER:

We cannot hear a word you're saying.

AUDIENCE MEMBER:

The lady said she can't hear.

MR. HENRY:

If people are having trouble hearing, if they can kind of come where the speakers are. Unfortunately, this is the best set up we have to project the sound to the audience. So, if folks can't hear, if you can come closer. Here are the two speakers (indicating).

The purpose of tonight's hearing is to hear testimony and statements related to Helis Oil and Gas's drilling permit application for the Eads Poitevent, et al, No. 1 Well. This well permit application was filed with the Office of Conservation on or around September 3, 2014, and this hearing, requested pursuant to Louisiana Revised Statute 30:6, on September 15, 2014.

At this time, I will file and record the

appropriate State exhibits into Docket No. ENG 14-626.

Conservation Exhibit No. 1 is a copy of the well permit application filed by Helis Oil and Gas for the Eads Poitevent, et al, No. 1 Well.

Conservation Exhibit 2 is a copy of the letter from the Town of Abita Springs and the Concerned Citizens of St. Tammany requesting the hearing tonight.

Conservation Exhibit 3 is a copy of the letter with exhibits to the Town of Abita Springs, the Concerned Citizens of St. Tammany, and Helis Oil and Gas granting the hearing request, prescribing the rules for the way the hearing is to be conducted.

Conservation Exhibit 4 is a copy of the Office of Conservation's promulgated procedures for hearings.

Conservation Exhibit 5 is proof of publication of the meeting notice for this hearing in the Louisiana Advocate on October 3, 2014.

Conservation Exhibit No. 6 is the proof of publication of the meeting notice for this hearing in the *St. Tammany Farmer* on October 9, 2014.

Conservation Exhibit No. 7 is a copy of the prehearing memorandum that was submitted on behalf of Helis Oil and Gas.

Conservation Exhibit No. 8 is a copy of the

prehearing memorandum that was submitted on behalf of the Town of Abita Springs and the Concerned Citizens of St. Tammany.

Conservation Exhibit No. 9 is a written statement that was passed out before and during this hearing, including information relative to oral statements and written statements submitted within the comment period.

Finally, Conservation Exhibit 10 is reserved for any written statements submitted in association with today's hearing.

Prior to starting the hearing, it is important for everyone to understand that the first part of this hearing tonight will include testimony from the well permit applicant, Helis Oil and Gas, and the hearing applicants, Town of Abita Springs and Concerned Citizens of St. Tammany Parish.

While the hearing applicants were given the option of a hearing consisting of only public comments, they felt that being able to present testimony prior to said comments would allow both proponents and opponents to outline their positions prior to receiving the public comments. Again, I ask you, please, be courteous to the presenters or you will be asked to leave and escorted out of the

building by security.

Many of you are probably here to make comments or statements in support or in opposition to the well permit application. As I inferred a moment ago, after the presentations by Helis Oil and Gas, the Town of Abita Springs, and the Concerned Citizens of St. Tammany, the second part of the hearing will allow individuals to make oral statements or submit written ones in accordance with the Louisiana Administrative Code.

Due to the anticipated volume of statements, these statements will initially be limited to five minutes. If someone would like to speak for longer than five minutes, extra time will be afforded once everyone has been given the chance to speak.

Also, while the public is more than welcome to come up and make statements, please, understand that both spoken statements and written statements will be given the same weight.

We handed out a slip of paper to everyone, and if you do need to submit written statements, the information is contained on that slip. Please reference Engineering Docket 14-626, Eads Poitevent, et al, No. 1 Well. As the paper states, the deadline for written statements is 5:00 p.m. on November 19,

2014.

On your way in, we had attendance cards where the members of the public could print their name, address, residence, indicate their position on the well permit, and also indicate whether or not they would like to speak. If you have not filled out a card and you want to, please, quietly make your way over to the sign-in table up front, and if you could do so while Helis is making their presentation and do it quietly, you know, we can collect those cards shortly.

These speaker cards will be called in the order in which they were submitted, and while we are going to go with that order, we will give preference to the residents of St. Tammany Parish. We're going to pull those cards first.

We're going to now go into the evidentiary presentation portion of this hearing. Please understand that both parties have invested much time and effort into these presentations, and, please, afford them the respect that they are due for that.

Also, while we typically have our hearings in Baton Rouge, we're in a gym this evening, as you guys can tell, so if you can keep it down so that the court reporter's equipment -- so we won't have any echoes and we can have an accurate recording of tonight's

hearing.

All right. Nobody has some opening statements, so, Helis, if you guys want to get started with your presentation.

MR. REVELS:

Do you want to swear them in?

MR. HENRY:

Yes. We're going to swear in all the witnesses at once. If the witnesses would raise their right hand and repeat after me?

(Witnesses sworn.)

MR. REVELS:

Hi. I'm Rick Revels. I'm representing Helis Oil and Gas tonight. I am joined by three distinguished witnesses, Bill Dale, a consulting petroleum geologist with over 30 years of experience; Ted Bourgoyne, a PhD petroleum engineer, former Dean of the College of Engineering at LSU; and John Conner, an environmental engineer also with over 30 years of experience.

All have previously qualified and testified before the Office of Conservation, and it is our task tonight to present testimony and evidence to establish convincingly that Helis has fully satisfied the requirements for issuance of a drilling permit on lands under lease to it in a newly-established

Tuscaloosa Marine Shale unit in Lacombe Bayou Field, and in addition, Helis has made substantial efforts, of course, to minimize any adverse environmental impacts or risks and inconvenience to the general public.

We'll begin first with Mr. Bill Dale.

For the benefit of those in the audience, Mr. Dale, if you would, please, state your name for the record and briefly summarize your education and work experience that have qualified you to testify on numerous prior occasions in the past as an expert in petroleum geology?

MR. DALE:

Thank you, Rick.

My name is Bill Dale. I received my bachelor of science from Louisiana State University in 1978, and I have over 35 years of experience as a petroleum geologist in the oil and gas industry.

I have previously testified as an expert witness in petroleum geology before the Office of Conservation.

MR. REVELS:

I would ask that Mr. Dale's qualifications as an expert again be recognized.

MR. HENRY:

Mr. Dale's qualifications are recognized.

MR. REVELS:

Have you given them the booklets of exhibits?

Excuse me just one minute.

Whereupon,

BILL DALE

was called as a witness on behalf of HELIS OIL AND GAS COMPANY, and, after having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION OF BILL DALE

BY MR. REVELS:

Q The exhibits that you are about to discuss, were they prepared by you or under your direct supervision?

A Yes, sir, they were.

Q All right. Let's turn to your first exhibit, please, and this is just a little summary information on Helis Oil and Gas.

A Right. Helis Oil and Gas is a privately-owned oil and gas exploration company based in New Orleans since 1934. Helis has owned and operated throughout the nation and has extensive operations on private, federal, and state lands, as well as federal offshore waters and inland state waters in Louisiana.

In recent years, Helis has drilled and hydraulically fractured approximately 60 wells such as the one planned for here in Lacombe Bayou.

Helis employs the best practices in the industry and strives to meet or exceed all applicable safety standards.

Q All right. Now if you would flip over to your next exhibits, please, if you would locate the subject unit in which Helis seeks to drill a test well in relation to the TMS wells drilled to the northwest?

A Yes. This exhibit is a regional map that shows the Florida parishes, and you can see St. Tammany Parish on the eastern side. It is highlighted in red. This map is to show where current oil and gas activity in the Tuscaloosa Marine Shale is occurring right now and where it is in relation to the Helis proposal.

In the middle of St. Tammany Parish, it's labeled Helis unit, that is the unit that was created by the Commissioner, the one that we testified to -- or I testified to in June, and you can see, I show a distance there of 40 miles, that's the distance to the nearest producing well in the Tuscaloosa Marine Shale.

The stars up in the upper portion of this exhibit are wells that are either permitted, currently drilling, being completed, or are under production, and you can see right in the top portion of the exhibit is the Louisiana-Mississippi state line, so you can see that most of the activity is there.

This activity started in earnest in 2011, by Devon and EnCana. Those are the first two companies that started out here. Since that time, there have been 21 wells either -- that I have identified here, so in three years, 21 wells.

Now, a little bit more activity is occurring in Mississippi. There are some indications of stars there. There are 47 wells. So that's just an indication of where the activity is.

And if we look at -- further look at the right-hand portion of the exhibit, you can see I've circled and drawn a line between, you know, a nearest well up there, which is labeled "A," and it goes down to St. Tammany Parish nearby the Helis unit, A', that is a line of section in which I'll show you the Tuscaloosa Marine Shale and how it relates to the area up in Tangipahoa Parish to St. Tammany Parish.

Q All right. And you're talking about Tuscaloosa Marine Shale or we may say TMS throughout this hearing a little bit. The unit was only established for that one interval, correct?

A That is correct.

Q All right. So we need to identify what that target interval is. If you would turn over and then discuss your line of section on the next exhibits?

A Okay. The next exhibit, this is a line of section that I showed at the hearing that we had on this matter, that was on June 17, 2014. This line of section was shown, and the Commissioner adopted the definition for the Tuscaloosa Marine Shale, which is shown on the very far right portion of this exhibit.

As I previously said, this is a line of section that starts to the north which is a well on the far left and goes through a series of wells to the right, all the way down to a well -- this is a Wagner and Brown, Keller Heirs Well, the one that's shown on the far right, and it's approximately two-and-a-half miles from the unit that we had established for Helis.

Q All right. Now if you would turn over to your next exhibit, and just briefly discuss the various strata that is situated immediately above and below the TMS?

A Yes. This is a demonstration of the section that Helis intends or plans to drill down through. This is a composite of two well logs. For the most part, the well log portion is the Wagner and Brown, Keller No. 1, but we've also included another well that has a well log that goes all the way close to the surface which shows the entire section.

So, starting at the top which is colored in blue

up on the screen and the exhibit I have is the -- it's a freshwater section, and the base of the freshwater in this area has been identified as +/-3,400'. Now, that information can be obtained from this well log, as well as published information, so this -- 3,400' is the depth of the freshwater, and you can see as you are going down, there are a number of aged sections that we go down through. The Tuscaloosa Marine Shale is located at the very bottom of this exhibit at +/- 13,000', and if you'll look on the left, I have a demonstration of -- it's 1.8 miles below the base of the freshwater.

Q Okay. So the target interval is close to two miles below the deepest -- just the base of the deepest freshwater aquifer; is that correct?

A Well, 1.8 miles is where I measured here to be below the base of the freshwater, so...

Q All right. And speaking of aquifers, let's turn to your next exhibit, and if you would discuss the outline of the Southern Hills Aquifer?

A The next exhibit is a published map that shows the extent of the Southern Hills Aquifer system, and you can see it's rather broad. It goes -- includes the Florida parishes, as well as it goes a fair distance up into Mississippi.

One point I want to make here is that there have been a number of oil and gas wells drilled in the Southern Hills Aquifer system. I did a check, and as far as just the Florida parishes only, there are approximately 1,700 oil and gas wells that have been drilled through that, and then, in Mississippi, there are thousands more that have been drilled through this Southern Hills Aquifer system in search for oil and gas.

Q All right. Let's turn over now to your next exhibit, and although drilling in St. Tammany is not a very common occurrence in recent times, we do see a number of, not water wells, but oil and gas wells that have been drilled in the parish. Would you discuss that, please?

A Right. And that's what I'm trying to show here with this exhibit, where the wells were drilled in the parish. Of course, the parish is outlined here. The Helis unit is shown and labeled in the middle, and as I've previously mentioned, there is a distance shown of 2.5 miles to the nearest dry hole, that is the Wagner and Brown, Keller No. 1 Well. Then I'm also showing here that the nearest producing well is far south in the lake. So we're 11.7 miles from the nearest well that produced oil and gas and 2.5 miles

from the dry hole.

In total, there are over 76 oil and gas wells that have been drilled in the parish. The initial well that was drilled below the base of the Southern Hills Aquifer was drilled in 1929, to a depth of 3,966', and then it wasn't until 1940 when another well was drilled truly down below that in search for oil and gas, down to 8,300', so a total of 76 wells.

Q Okay. One of the requirements to get a drilling permit is to show structures within 500' of the location on a survey plat. If you would turn to your next exhibit, and comment on the plat that was actually attached to the permit application?

A This is -- the next exhibit is the plat that was attached. This is a typical plat that is submitted that a surveyor will prepare. They've stamped and certified which identifies the well location with X/Y coordinates and distances to lease lines, section lines. It just identifies the spot in space where somebody can find it at any time, so the coordinates on here are good for that.

Q And the certification from the surveyor is on that, as well?

A That is correct.

Q All right. Let's widen -- if you'd turn to your

next exhibit, let's widen the scope a little bit and move out from that 500' radius and talk about any structures close to the proposed drill site?

A Right. One of the requirements is to -- for the surveyor to go out and identify any structures within 500', and this exhibit demonstrates, well, that they did that, but also there is a circle that is drawn around the well site. It's a one-mile radius circle, and there are no structures within that distance.

I've also identified some other key points here, that we are 1,330' -- 1,837' from I-12 and 1.2 miles from the -- I guess we would call it the edge of the school property here where they turn into the school. I've also shown a distance of 7.17 miles to Abita Springs. They are one of the parties that called for this hearing, so I thought it appropriate to show the distance to the town there.

Q Okay. So, if I'm looking at this right then, Mr. Dale, there's no structures within the 500' radius that the surveyor had to certify to, but also, more than ten times that distance there is no structures within that radius, correct?

A That is correct.

Q I guess the most important structure that we've identified on this would be where we're sitting

tonight, at the high school?

A That is correct, yes, sir.

Q All right. Now what about this next exhibit which is related to it?

A The next exhibit just gives a little bit more detail. I intend to show here the access road that Helis would like to use to access the location. It is an existing road, and by using this road, it would minimize the effects on other areas. It is an existing road and would be the best one to access this location, and, quite frankly, it's quite a ways off of Highway 1088.

Q All right. Now you have a series of aerial photographs. We thought it might be of some interest to the Conservation staff and to the audience as how the property has been used in the past and how it is presently being used. If you would go through very -- in a summary fashion the next few aerials?

A Yes. This next series of exhibits, I wanted to show land use over the past +/- 30 years. So we'll start in 1985, and I started here because it shows that the area around the Helis well site has recently been clear cut or been cut for pine trees so it's probably getting for replanting, and what I'll show as we go through these next series of exhibits is the

cycle. I mean, this is pine farm where you plant and grow and cut trees, and it cycles.

Starting in '85, if you'd look at this plat, you can see the unit we've created. On the very bottom portion of it is the Helis well site, that area has been cut of pine recently, as well as the areas up above, north and south of Highway 1088.

So we go to the next exhibit, 1998, this is to show the area around the well site now it's a little bit darker shaded color which means that the trees have grown. They're maturing in that area. Just to the west of it is an area that is lighter shaded, that area had been recently cut. So it's a cycle that we go through where one area is cut and replanted, the other area is grown up in trees, and as we go through the exhibits, you'll see that cycle.

We'll go again to 2005. You can see that the -- at the well site, there is no distinguishable area there where trees had been cut recently. It's all growing up in trees, but there is a fresh-cut area up in the northeastern portion of the unit, and I'm showing that because I'll go into a rather quick cycle over the years where we'll see this school, where the property is being developed for that. This is strictly to show how different areas are cut at

different times, trees grow and until its maturity and then cut again.

Q All right.

A So let's go to 2006, and I have a flag or an area shown there where Lakeshore High School will be built. The next exhibit in 2007, we'll see that. You can see that same cut area in the northeast corner of the unit, and then a new cut area to the south of Highway 1088, and you'll also start seeing a development being built just to the north side of the interchange of I-12 and 1088.

Q Okay.

A The next exhibit, 2007, this is the next year. Lakeshore High School is being built. You can see the development north of the interchange between 1088 and I-12 being developed over there.

On these sets of exhibits, I will start to show a blow-up or detail of the well location site just to show the trees. You can see that that area now has been cut too, and as I go through the next cycle of exhibits, you can see where it will be planted, and the rows of trees will grow up.

You'll also see on here, and I haven't mentioned before, but there are a number of areas crossing the property where we have labeled power lines, gas

pipelines, there are a couple of them there. There is a new north-south pipeline that is just to the west of the location. So there are a number of other features on this property which it is being used for, for power, gas, for whatever has gone across here, and it's been used for that.

If you'll go to the next exhibit, 2009, I primarily wanted to show on this the exhibit on the right where I've blown up the well site, and you can see a little road there very close to where I've spotted the location, and what that is is a staging area for the trucks that came in and where they were planting trees here, and that is the cycle that I've talked about where trees have been cut, they'll come in replant them, and grow.

So, if you'll go to the next exhibit, in 2010, you'll see the rows. It looks like a crop has been planted, and that is precisely what it is, and you can see the location there.

Q In fact, Mr. Dale, isn't this whole property, not just the subject unit, but the big area around it under a long-term timber lease that is now operated by Weyerhaeuser? So, I mean, everybody has heard of Weyerhaeuser. It's just a very big timber operation; is it not?

A That is correct, yes, sir.

Q All right.

A And then, finally, my exhibit for 2013, this is the most recent exhibit I have. You can see that the -- let's look first to the right, to the blow up of the detail of the location because you can see the trees are growing more. You can still see the rows of -- where they were planted, that they're definitely getting bigger now, so that cycle is ongoing.

I've also shown on here, and this is part of the permit package that Helis submitted, but if you'd look on the very bottom portion of the unit, we have the Helis well site, where the location is, but I've also shown the lateral that Helis would like to drill, if, in fact, the results from the vertical hole that they intend to drill here -- if the results from the vertical hole are good, this is the lateral that they intend to drill. So you can see it goes from the surface location all the way in a northerly direction to the northern portion of the unit. I've labeled it there "proposed bottom-hole location." It's 12,773' below the surface, and that's what the plan is and that's where they expect the Tuscaloosa Marine Shale to be, that's 2.4 miles below the surface.

Q Okay. You know, everybody here, there is

obviously going to be some people here that are not used to unitization, are not used to TMS development, but isn't it true that the TMS cannot be commercially developed without drilling and completing horizontal laterals which are generally oriented north-south direction, so Helis --

MS. JORDAN:

I'm going to object to the leading nature of the question. I'm sorry. I let a lot of it go, but it's a (inaudible). Thank you.

MR. HENRY:

Would you like to rephrase?

BY MR. REVELS:

Q All right. Let me ask you this. Of the 60-or-so wells drilled in the TMS so far, haven't they been completed with a horizontal lateral?

A Yes, sir, they have.

Q And generally speaking, is the orientation not north-south or drilled south to north or north to south?

A Yes, sir, that's correct.

Q Okay. So, my point to you is, now that a unit has been formed, if you want to drill a unit well, which that is Helis's intention --

A Yes, sir.

Q -- they have to locate either on the north side to drill the lateral southward or they have to drill on the south side and drilled northward; is that correct?

A That is correct.

MS. JORDAN:

Objection, again. I'm sorry. The questions could be phrased so that the witness is the one testifying and not the attorney, that would be the best thing. Thank you.

MR. REVELS:

Let me just make one comment.

MR. HENRY:

If you could rephrase the question. I'm going to sustain the objection.

With that being said, when everybody claps, the court reporter has trouble due to all the echoes, so if we could be that down, it would be -- I'm sure she would appreciate it.

MR. REVELS:

And I'm going to make this one comment. We're not under Rules of Evidence. If you -- the Rules applicable to hearings are moot, and leading questions are not objectionable.

BY MR. REVELS:

Q But be that as it may, let me ask you this one last question.

In your opinion, would it be better, from the standpoint of disruption to the high school and to traffic, et cetera, to locate on the north side or the south side of the existing unit?

A Right. Helis selected a location on the south side of the unit, the very far south of the unit, to drill in a northern direction, and as you can see, it is as far away from the school as it possibly can get.

Q All right. And in your expert opinion, is the chosen drill site at an optimum location to efficiently and economically drain the unit and to minimize the environmental impact and disruption or inconvenience to the public?

A Yes, sir.

MR. REVELS:

Our next witness is Dr. Ted Bourgoyne.

MS. JORDAN:

Are we allowed to do the cross? I mean, I thought I was going to be able to do a cross-examination after the witness finished. It's very confusing for me to have to wait for all of them to testify before doing a cross.

MR. HENRY:

I think I'm going to have to go with Ms. Jordan, and I'm going to let her go ahead and cross the witness.

MR. REVELS:

This is not -- let me just -- can I just at least object to her point?

Rule 14 says, the applicant shall first present the entire geological, engineering, or other basis of support.

So, if you want to follow what is done in hearings, all of our experts testify before anybody is crossed.

MS. JORDAN:

I object to that. We've said earlier that this was supposed to be --

MR. REVELS:

We know you object to it. I'm just saying, are we going to follow the rules or not?

MR. HENRY:

We'll take the objection under advisement at this time, and we're going to go ahead and let him finish.

MR. REVELS:

Okay. We're going to turn now to Mr. -- Dr. Ted Bourgoyne.

MS. JORDAN:

So it's denied. So I just want the record to reflect that it was basically denied. If you take it under advisement and I'm not allowed to do the cross right now, then, obviously, it's denied because my request was to do the cross right now.

MR. HENRY:

That is correct, and you will have your chance to cross-examine once he finishes.

MR. REVELS:

As I said previously, our next witness is Dr. Ted Bourgoyne.

MR. REVELS:

Although, Dr. Bourgoyne, you've already qualified and testified as an expert before the Office of Conservation, I ask that you state your name for the record, and then briefly summarize your education and work experience that have qualified you to testify as an expert in petroleum engineering.

MR. BOURGOYNE:

My name is Adam T. Bourgoyne, Jr. I'm a professional petroleum engineer registered in Louisiana. I have BS, MS, and PhD degrees in petroleum engineering and 45 years of experience.

I have 29 years of academic experience at LSU. I retired from LSU in 2000 as Dean of Engineering.

Since that time, I have had 12 years of experience with Tuscaloosa trend wells, deep Tuscaloosa trend wells, in Pointe Coupee and West Baton Rouge Parish.

MR. REVELS:

I would request that Dr. Bourgoyne's qualifications again be recognized.

MR. HENRY:

The witness's qualifications are recognized.

Whereupon,

ADAM (TED) BOURGOYNE, JR.

was called as a witness on behalf of HELIS OIL AND GAS COMPANY, and, after having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION OF ADAM (TED) BOURGOYNE, JR.

BY MR. REVELS:

Q And, Dr. Bourgoyne, were the exhibits you are about to discuss prepared by you or under your direct supervision?

A Yes.

Q All right. If you would first summarize briefly what you've reviewed in connection with this hearing?

A Primarily, I did a drilling engineering review

looking at the regulatory requirements for a drilling permit. I looked at public data available for wells near the geologic prospect. I reviewed the Helis drilling permit application, and looked at the proposed unit hearing information in Docket No. 14-232, and also reviewed the Helis drilling program that was prepared by Seidel Technologies.

Q All right. Dr. Bourgoyne, would you, please, discuss then the regulatory requirements that exist with respect to issuance of a drilling permit for a well to be drilled in search of oil and gas under both LA R.S. 30:28 and Statewide Order 29-B?

A Yes. The regulatory requirements for a drilling permit in Louisiana are covered primarily in Louisiana Revised Statute 30, Section 28, and also Conservation Statewide Order 29-B, Section 103.

If you'll look in Louisiana Revised Statute 30:28, it pretty much lays out the State law in this area, that requires payment of certain drilling fees, providing a well location plat, as was discussed by the previous witness. It also indicates that, if there is a structure, residential or commercial structure, within 500' of the proposed well site, then the Commissioner can have a hearing like this, if so requested by those affected.

AUDIENCE MEMBER:

I can't hear you.

MS. JORDAN:

I can't hear him either, actually.

MR. HENRY:

Well, if you can get closer to the microphone, I think it will help.

AUDIENCE MEMBER:

We can't hear anything.

MR. HENRY:

As I explained earlier, this is the PA system we have, and I apologize that people on the outskirts cannot hear. With that being said, we -- this is the best we have, and the witnesses are testifying, if you can give them respect.

Also, keep the applause down because the court reporter is having trouble hearing echoes.

Thank you.

DR. BOURGOYNE:

I will speak slower and closer to the mic and see if that helps.

A Revised Statute 30, Section 28 requires the payment of certain drilling fees, drilling permit fees, a well location plat, and the statute indicates that the Commissioner has the sole authority to issue

permits.

The Commissioner is also given the authority and responsibility to promulgate regulations having to do with surface water quality and certification and also groundwater aquifer safety.

The statute also indicates that a 30-day pre-entry notice must be given.

These same areas are covered in Conservation Order 29-B, Section 103, which is basically the regulations that promulgate the requirements of Louisiana Revised Statute 30:28. It indicates that the application has to be made on a Form MD-10-R, that location plat requirements are spelled out, and the requirement to the pre-entry notice. It also requires --

MR. HENRY:

Can you hold on for a second?

AUDIENCE MEMBER:

We can't hear a word you're saying.

MR. HENRY:

We're going to take a small recess and try to see if this guy can help with the sound.

(Brief recess.)

MR. HENRY:

Okay. The speakers are good. We're going

to try this again. If not, we'll have another recess.

So if you want to continue.

BY MR. REVELS:

Q All right. Dr. Bourgoyne, do you want to continue, did you finish your discussion of the requirements for issuance of a drilling permit?

A Yes, I think I have.

Q All right. And, based on your review of both the applicable requirements and Helis's drilling application and related materials, is it your expert opinion that all requirements for granting of the permit have been fully satisfied?

A Yes.

Q All right. Your next exhibit gives us an idea of how common the issuance of drilling permits are in Louisiana. What comments would you like to make with regard to this exhibit?

A Basically, this is a record pulled from the Department of Natural Resources's website of dealing with onshore oil and gas permits issued so far in 2014. We can see from this that it is a very common occurrence, in that, somewhere between three and five permits each month have been granted.

In addition, within those permits, Tuscaloosa

Marine Shale permits have also been issued, and much lower, of course, in number, somewhere between zero and two permits per month have been issued during 2014.

Q And would it then be on a yearly basis somewhere on the order of 1,500 the last few years, is that right -- 1,500 drilling permits a year?

A That's approximately correct.

Q Okay. All right. And although drilling has not been a common occurrence in this parish, at least in recent times, if you would briefly discuss whether numerous have been drilled in the general area in the past by reference to your next exhibit?

A The next exhibit shows nearby wells with emphasis showing up to like a ten-mile radius. We see that there are a significant number of nearby wells but not a great number.

Also, we see that the wells tend to trend, the ones of most interest from the standpoint of reviewing drilling plans, the closest well of interest are the ones that trend to the southwest, more or less, paralleling I-12.

Q All right. Would you agree that the relatively small number of wells previously drilled in this area have more to do with the lack of success that prior

operators have had rather than any other factor?

A Yes. Most of these wells have not been completed as producers. They were drilled and abandoned.

Q But the Helis project, of course, is new and different. It's a shale development. It's a fairly recent phenomenon, and Helis does believe it has a chance of success drilling at the chosen location; isn't that correct?

A That's correct. There is evidence that the Tuscaloosa Marine Shale may be amenable to horizontal drilling and stimulation by hydraulic fracturing.

Q All right. Your next couple of exhibits, I'd ask you to turn and discuss the geologic environment that Helis is likely to encounter based upon your review of these nearby wells, both mud weights and temperatures?

A Yes. The mud weights are important in developing a drilling plan, in that, it says how heavy a mud weight is going to be required in order to balance the formation pressure.

We can see the mud weights used in nearby wells has not been very high that we can drill to the target depth with a 10.5-pound-per-gallon mud, and that the Tuscaloosa Marine Shale interval is just slightly higher pressured than normal. These mud weights are generally much lower than you would see in many

high-pressure south Louisiana wells that would require 16 to 18 pounds per gallon.

Also shown are the temperatures that were seen in nearby wells, and, again, these temperatures are not particularly high from a drilling and completion standpoint and would not offer any unusual challenges.

Q All right. Based on your review of the well data from the nearby wells, in your professional opinion, is it reasonable to assume that the Helis test well will fall within a similar range as to both pressures and temperatures, and what are the implications of that?

A Yes. This would be a normal way of planning this, to base it on nearby wells, and that generally holds true.

What this indicates is that this Tuscaloosa Marine Shale prospect well is not a difficult well to drill. Its temperatures and pressures and so forth are not excessive. It's not a high-pressure well, not a high-temperature well. The target is low permeability, so it can't flow very fast. There is no indication of H_2S in any of the available data.

The aquifers will also be protected by three casing strings, and the target within the Tuscaloosa Marine Shale, kind of the sweet spot where the lateral

might be planned, would be at 12,894' about, and that is 1.8 miles below the aquifer.

Q All right. Dr. Bourgoyne, you've mentioned that the plans of Helis will require completion of a horizontal lateral using hydraulic fracturing, and our next witness, Mr. Conner, will go into more detail about that, but from your expert opinion, your standpoint, why can't Helis simply drill and complete the well without using this technique?

A Well, a shale formation like the Tuscaloosa Marine Shale formation does not have enough permeability. It will not flow fast enough to be commercial without using this new technology.

Q All right. If you would now, turn to your next exhibit, and discuss how Helis plans to drill and complete the proposed well?

A Looking at this exhibit, if you'll look at the top, you can see there is quite a bit of information summarized in the well plan given in columns.

To the left is the type logs which was discussed previously by Bill Dale that is sort of a composite type log from two different wells, one well we had a log through the aquifer and another that was more representative of the deeper formations to be drilled.

The next column gives a lithology description of

the different formations that will be encountered, and then we see the estimated pore pressure column, again, the pore pressures are not very high, and the anticipated mud weights that will be used in the well plan in order to drill down through the target.

The initial well, the Phase 1 well, that the permit has been requested for will be a straight well, and it would drill vertically through the target. And if you pan to the right and look at the well schematic, we see more detailed information on the casing program that would be involved and some of the pertinent information on how the interval would be drilled.

For example, you can see that a diverter system will be used, as was requested by the Office of Conservation. The surface hole will be drilled with a 17-1/2" bit and a water-base mud. There will be closed-loop solids control systems used, and there will be no pits, no earthen pits, either lined or unlined. Steel tanks will be used in a closed-loop solids control system with all the waste mud and rock cuttings being generated being removed as they are drilled.

The surface hole will be control drilled or drilled slowly to limit how fast the cuttings are

being generated with the bigger 17-1/2" bit.

There will be a truck management plan to ensure that there will be no trucks moving through school zone hours, two hours in the morning and two hours in the afternoon, at the time school is coming in and going out.

The 13-3/8" surface casing will be set at 4,000', which is about 600' below the freshwater aquifer, and cemented back to the surface with cement continuous from the bottom all the way back to the surface.

If we focus on the bottom left side of this exhibit, we see the Tuscaloosa Marine Shale target shown, and there's got a little sweet spot of high resistivity and other indications within the Tuscaloosa Marine Shale where the lateral will probably focus, that is also shown there.

If we pan to the right of this exhibit and look at the details of the vertical pilot hole, we see, in a little inset, an enlarged section there shown on the exhibit, and it shows that cores will be taken through the Tuscaloosa Marine Shale target portion, so those cores will be taken to the surface where they can be analyzed. There will be a number of well logs run, different types of well logs, to better define the petrophysical parameters of the Tuscaloosa Marine

Shale target, and there will be also an effort made to take fluid samples and verify the pressures involved.

So, with this information, they will first make a quick look and decide whether to set the intermediate casing or plug and abandon the well at that point, or if the data looks promising enough to complete the data analysis over the next two or three months, what they would do would be then to run the 9-5/8" intermediate casing. And they would build the angle slightly, building it at eight degrees per 100' to 15-degree inclination, and being 50' into the Eagle Ford formation, which is a very competent shale. So then they would be set up that, if they so decide after analyzing the data, they could then proceed with the lateral.

Q All right. So, if I'm understanding you though, the results from drilling the vertical well have to be promising or else the well is just plugged, there is no lateral drilled, there is no hydraulic fracturing that occurs; is that correct?

A That is correct.

Q All right. I mean, Helis is, of course, hoping -- although it's 40 miles away from the nearest TMS well, it's hoping that it's going to be successful.

So let's go over, in the event that they do get

promising results, how that lateral would be drilled and completed.

A The next slide shows the -- or exhibit shows the vertical hole section on the left down to where the well would be turned horizontal and the lateral would be started. So we see the vertical well -- portion of the well, along with the heel of the lateral on the left side of this exhibit.

The right side of the exhibit is an enlargement showing more details about the lateral and how it would be drilled, the casing program and so forth, mud program that would be used.

If we focus on -- at the upper part of the left side of the exhibit, the vertical hole section, we see more detail on how the aquifer will be protected. We can see that -- you will have three different casing strings, concentric, one inside the other, each about 1/2" thick wall, steel wall, casing, so that's -- will afford quite a bit of protection. And we see also that there will be two cement sheaths that will be -- that the steel casing will be grouted in place, both the surface pipe and the intermediate pipe all the way back to the surface. So that gives us some of the details of at least how the lateral would be drilled, if the decision was so made.

Q All right. Is it correct to say, Dr. Bourgoyne, that any hydraulic fracturing done in connection with completion of the test well would only be for a short period of time and it would be completely confined to the TMS interval, which, as we've indicated before, is like two miles below the surface and 1.8 miles below the deepest freshwater aquifer; is that correct?
A That's correct, and the fractured sections are expected to be in 25 different stages, and the detail of this is shown in the G-3 exhibit that Bill Dale had covered previously, and the fractures are represented, more or less, to scale. In fact, that entire exhibit is to scale, except that the wellbore couldn't be drawn to scale because it would be so thin you couldn't see it, but other than that, that exhibit is to scale, and the fractures are shown approximately to scale, also, so they're confined to the Tuscaloosa Marine Shale interval.
Q All right. You've got quite a few additional exhibits. We're trying to be as quickly -- to move through our presentation as quickly as we can, so I'm not going to ask you to comment on each individual slide or exhibit, but that information will be submitted for the record. You're prepared for a cross-examination should people have questions about

the details that are reflected on these exhibits, but I guess right now then I would just ask you to skip to your concluding exhibit about what conclusions have you drawn as a result of your study of Helis's plans?
A I have concluded that, indeed, Helis has met the permit requirements of 29-B. Helis has operated in Louisiana for over 80 years. The well plan is based on safe, time-tested drilling practices and best available technology for protecting the environment. Helis's well planning and their H-INC Contractor Audit Safety and Environmental Management System, sometimes abbreviated SEMS, is designed to meet or exceed requirements for federal leases, in that, they drill in many states, and these also meet or exceed the requirements in Louisiana. Helis has considerable drilling experience and has drilled similar shale prospects in the United States and in -- both onshore and offshore within Louisiana, although not horizontal wells.
Q All right. And, of course, you're not an economist, et cetera, but do you see that some benefits could result from Helis's operations, at least should the well be successfully completed?
A Yes. I think it would -- it can have significant economic impact. It will be a very expensive well to

drill. Obviously, if it's successful, there will be royalties and so forth that will be paid. The State will get severance taxes and it will be property taxes and so forth associated with the operations. So, yes, I would think the economic impact could be considerable, and I think this Tuscaloosa Marine Shale and hydraulic fracturing does offer the possible advantage of the second crop of oil for Louisiana --
Q All right.
A -- that would definitely have a big impact for the state.
Q From a drilling and completion standpoint, what, if any, alternatives do you see to provide more protection to the environment?
A Not any that I can see. I think that the plan uses the best available and safest technology, and has taken into account the various concerns.
Q All right. So, in conclusion, based on your careful and thorough review of Helis's plans, given all the relevant facts and circumstances, is it your expert opinion that Helis has chosen an optimum site and minimized environmental impacts to the extent reasonably possible in a responsible and prudent fashion?
A Yes.

MR. REVELS:
All right. That concludes his direct testimony.
We will turn now to our final witness, Mr. John Conner.
Mr. Conner has also previously qualified and testified before the Office of Conservation as an expert in environmental engineering.
Mr. Conner, if would you state your name for the record, and then briefly summarize your education and work experience that have qualified you to testify as an expert in environmental engineering?
MR. CONNER:
Can you hear me, can you hear me back over there?
AUDIENCE MEMBERS:
No. It's not on.
MR. CONNER:
This is not on. Okay. We got it.
I'm going to stand over here by these slides for those questions.
Can you all hear me?
AUDIENCE MEMBERS:
(Inaudible.)
MR. CONNER:
Okay. I'm going to hold it very close.

AUDIENCE MEMBER:

I can't hear you.

MR. CONNER:

I'll get here by these -- like that? Is it working now? It's working, okay.

I'm going to stand over here by these slides in order to answer your questions about the -- is it working -- my qualifications.

I got my degree in civil engineering from Stanford University. I have worked for -- it's not going to work?

AUDIENCE MEMBERS:

(Inaudible.)

MR. CONNER:

Is this working now, is that working, can you hear it? Move around with it?

All right. I'm going to talk -- go Titans.

(Applause.)

Okay. I'm going to stand here with this mic and talk about my slides.

MR. CONNER:

So, starting over, my name is John Conner. I'm a professional engineer, professional geoscientist, recently got a degree -- my degree is at Stanford University a long time ago, and for 34 years I have

been working as an environmental engineer in the -- principally in the oil and gas business. I have worked all over the U.S. I've worked all over Canada, Latin America, and the Middle East, specifically working on environmental problems associated with oil and gas, and they do happen, and my job has been to prevent those problems and deal with them when they happen.

I've worked for USEPA. I've work for the state regulators around the country, I've worked with other regulatory governments, and I've worked for a lot of oil companies, and that's the basis upon which I will be talking to you all today.

MR. REVELS:

I would ask that Mr. Conner's qualifications as an expert again be recognized.

MR. HENRY:

Mr. Conner's qualifications have been recognized.

Whereupon,

JOHN CONNER

was called as a witness on behalf of HELIS OIL AND GAS COMPANY, and, after having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION OF JOHN CONNER

BY MR. REVELS:

Q Mr. Conner, were the exhibits that you are about to discuss prepared by you or under your direct supervision?

A Yes.

Q All right. If you would go through your first issues which you've considered and the materials that you've reviewed in connection with this hearing in order to form your opinion?

A Yes. My area here has been the environmental engineering aspects of this project. I've worked on a lot of these projects, and I am a firm believer that hydraulic fracturing can be done safely in a way that protects the environment, but you've got to do it right. You've got to do it right.

And so the question is, is -- are the procedures in place to achieve safe and effective hydraulic fracturing of this unit on the Helis site, and to do that, to make that evaluation, we have looked at several different specific topics that are the same as have been expressed as a point of concern by a lot of the citizens of St. Tammany Parish.

AUDIENCE MEMBER:

Liar.

A Did you say louder?

(Laughter.)

Oh, I thought you said "Titans, Titans."

Okay. So the first is considerations for the site selection. Is this site, has it been carefully selected, is it appropriate to minimize the impacts?

The second is, are procedures in place to protect the groundwater?

The third is, what about water use? Fracing can use a lot of water. Where is it going to come from, and is it appropriate?

Third (sic) is, what procedures are in place and what physical structures are in place for spill prevention and storm water management, how do you keep this stuff where it is supposed to be and not where it's not supposed to be?

And the ecology and wetlands, there are issues in this area for threatening endangered species. Have those been taken into consideration, will they be protected?

Finally, the air monitoring, there will be an air monitoring program. What is that going to consist of? There is an emergency response program in place. Will it be effective?

And, finally, we also looked at miscellaneous issues, like noise and traffic.

For each of these areas, we have gone through all

the records of Helis's operations here in Louisiana. We looked at Helis's operations in other states. We looked at the plans that are in place today and the plans for the future and measured those against a specific standard to see if they are up to snuff.

These are the standards, these are the criteria, this is the yardstick that we've used for that. We've taken all those records, including interviews with Helis's personnel, records of the DNR on violations or insufficiencies that are in the files, and measured them against these criteria.

First, the Louisiana laws and regulations that govern oil and gas and environmental, they are in Title 43 and Title 33 of the Louisiana Administrative Code. Secondly, the Code of Federal Regulations of the federal government, those are in Titles 29, 33, and 40. They govern wetlands, they govern oil and gas, they govern water protection. And then we've also looked at industry guides, industry standards, that are in place to say what is a good operation, what is not a good operation. This has got to be a good operation. It's got to meet these standards. So those are the yardsticks, and that's what we've done, Mr. Revels.

BY MR. REVELS:

Q All right. Let's just start off now with your next slide, and if you would review Helis's operational history, and could you briefly summarize that history and any opinions you have formed as to the ability and competency of Helis as an operator?

A Okay. Helis has drilled over 650 wells in the U.S. Most of those wells are -- well, all of the wells are in the states that you see here that are in orange. They extend from their home state of Louisiana, up to Montana.

Helis was founded here in New Orleans 80 years ago, and most of their wells are here. There are over 100 wells that are actively operated by Helis in Louisiana today.

Going through the records on these, since 2006, there have been over 900 inspections of Helis facilities by the Department of Natural Resources where the inspectors come and look at the facility, inspect it for any -- to ensure that it's meeting the criteria that the government has set forth for safe operations. We went all those inspection records. We went through all the records on the DNR files, which you also can do yourselves, to look to see if there were any irregularities today in their operations. There aren't any. Today, Helis is completely

compliant. There are no outstanding orders or deficiencies.

In the whole record of the years that we looked, we found 11 citations, five of these were compliance orders, five of those were called red flags. We looked at each one of those to see if they have been resolved. They had been resolved. Most of those were paperwork issues. None of these 11 citations in all those years involved an environmental impact.

So, based on our experience and our evaluation, Helis is -- has a good operation. They are not perfect. They're a very good operation, and that is the result of my evaluation of that.

There is one other thing, Mr. Revels, to point out is, there is -- there is a -- I saw on St. Tammany Parish webpage a concern about an SPCC plan. What that is, is a spill control, prevention, and countermeasure plan, and that is a specific plan that is in place, so how do you prevent there from being spills? If there are spills, how do you control them?

The USEPA, in February of 2013, cited Helis saying that the plans for one of their facilities in the Atchafalaya Basin was insufficient, and they laid out ten things that were insufficient or had to be fixed. They inspected the Helis facilities and found

no problems with the facilities. There were no spills, there were no accidents, but they didn't like the way that plan was written. In fact, eight of the ten things that were on the plan were already in the plan. There was one thing that had to be corrected, and it was corrected. So that is one issue that was also in the record that we evaluated to see if that was -- comported with good operations and any insufficiencies there have been resolved.

Q All right. Of course, we said before that, should the results from the vertical hole be favorable, Helis does plan to drill a horizontal lateral and complete it using hydraulic fracturing, and this process is quite concerning to some members of the public. So I'd ask that you go through the process, explain how it works, and why you believe Helis will be able to safely complete the well without endangering the aquifer?

A Okay. I think most of the folks in here have some familiarity of what this process is of hydraulic fracturing, and Dr. Bourgoyne has talked about it on a fairly sophisticated level, and I'm going to talk about it at a fairly simple level from the environmental prospective.

So here is a diagram I've got on this slide. I

don't know if you all can see this or not. It's pretty small. I've got a cross-section here. It's like a slice through a piece of cake, all right. If you are looking, here is the surface up here of the earth, and there's a big slice going down, and I can show on here some of the dimensions.

There is a drilling well up there. I'll get this fancy laser pointer here, and I can check it out. All right.

Here's the drilling rig, and down at 3,400' is the base of freshwater. So, if you go where we are right here, and you drill down to 3,400', you can still get fresh water. It's one of the deepest freshwater areas in the state by far. It's a lot of fresh water right here (indicating). When you get below fresh -- you get below 3,400', it's saltwater. It's naturally salty. Above that, you can get fresh water, and it's good water.

Helis will be drilling -- I'll talk more about this. I think Dr. Bourgoyne did, but we've got to put a casing in there 4,000' deep to seal off any contact with that freshwater zone. Once that is in, they will drill down and do a horizontal well, that is a well that will go down 12,000' and then bend very slowly and go horizontally for a mile or so.

Then what happens there is a three-step process, and I'm going to go through it pretty quickly. We're going to talk about what controls are in place to meet what I care about is protecting water. What happens in this process, and how do you do it right to make sure you don't screw things up?

So, first is, a steel casing is put in the ground and cemented in place, and then it's perforated. There are chargers that are taken down there in a short section at a time, a couple hundred feet at a time, it's perforated so that water can go out through there, put holes in that pipe. Then a special high-pressure truck comes to the site and it pushes water down there under very high pressure. The shale is very much like a dried up lasagna, with all these inner-bedded layers that have been squished down. When you push water in it, you can pop those layers open. If you can open those layers up, oil and gas can come out, so -- can you hear me?

AUDIENCE MEMBER:

(Inaudible.)

A All right. I'm getting to that part. You've got it.

Okay. So that pressure -- that water pressure is put in there, and these fractures will open up. These

fractures are at most about a quarter of an inch thick. They're not big, and once those fractures are opened up, sand is then placed in there and then the pressure is taken off and the fracture can't close again because it has sand in it. All right. So, if you put -- if you open up a book and you spread sand in those pages, you try to close that book, that book won't close up again, right. It's got sand in between the leaves. So now that they're sand in there, the oil and gas could come out, and that when you -- so the fractures close up, the sand stays back, and then the gas comes out.

There are a number of things you've got to do while you're doing this to do it safely. You're doing short sections called stages. You monitor your pressure during that entire time so you can tell how far your fracture is going. These -- this system is designed to frac no more than 100' above or below this unit, and there is very specific controls on that to make sure that that is under control, okay.

BY MR. REVELS:

Q All right. Our next question is, depending on the length of the lateral and the number of frac stages, Helis may use a considerable amount of water in connection with completion of a horizontal lateral.

If you would discuss the water volumes that may be used and where that water will be sourced?

A Okay. Hydraulic fractured wells are horizontal wells, and they're a lot longer than normal wells, so because they're so much longer, they use a lot more water. They use somewhere, you know, five to ten times more water than a normal vertical well. So where is this water going to come from? The well -- this well will use on the order of five million gallons of water, if it actually is completed out in this horizontal section. So where is that water going to come from?

The Louisiana Department of Natural Resources and the Louisiana Department of Environmental Quality advised drillers, don't use our groundwater. There is a lot of people already using the groundwater, use surface water.

In this area, in St. Tammany Parish, there are -- St. Tammany Parish is one of the leading parishes in the state for scenic bayous. There is some beautiful waters in this county (sic). Those will not be used and neither will be the groundwater be used. So, for this case, Helis will be using private pond water. There won't be any water taken from any scenic bayou. There won't be any water taken from any water wells.

Q All right. One of the concerns expressed about hydraulic fracturing relates to chemical constituents used and the inability of the public to obtain adequate disclosure of these materials. Please discuss how Helis plans to handle these matters.
A Okay. I think the big question is -- I just said they would use five million gallons of water, and the real question I don't think is the concern of people is not that we're using water, it's that we're using chemicals in the water, right?

So this is how it normally works. When the frac trucks come up, and there is a lot of them, and they bring that water in, they are using a number of different machines that will swirl that water together like a blender with stain out, and that sand-water mixture gets put down the hole. To keep that sand suspended in the water, it requires different -- different chemicals are used for that, and so the total mixture that goes down there is 90 percent water, 9.5 percent sand, and 1/2 percent chemicals, but the big question is, what is in that little jar of chemicals, right.

So the chemicals that are in there are a pretty long list. Like a really excellent source of information about that is called FracFocus. It's a

webpage that was established by the Groundwater Protection Council. It's a consortium of different state agencies, including Louisiana. They put together this webpage that has all kinds of information about how fracturing is done, what chemicals are used, why those chemicals are used, and are they dangerous.

If you'll look down that list of chemicals, most of the chemicals are totally innocuous. You could eat them, you could drink them, but they're not all like that. Some of them are hazardous, right. Some of the chemicals that are used are not innocuous, and if they're not used properly, they're dangerous. So that's why in this business, as in any other business, you've got to do your business right. You've got to handle your materials right, that's -- these same chemicals are used in a lot of other businesses, but they have to be handled safely.

What Helis will do in this regard is, they will follow the requirements of Louisiana 29-B, Section 118, which sets forth what's called chemical disclosure requirements. For that purpose, Helis will meet the requirement of 29-B by putting all of the information of the chemicals that they use, what are those chemicals, how much was used, what percentage is

this, what's their chemical ID number, that will be put on the FracFocus webpage with a direct link to the public access.

Then, in addition, Helis has a policy to go beyond what is normally done. There has been a lot of -- I don't know if you all have heard the frustration in the public about, okay, you've told us about your chemicals, you've posted them, but then you said they were trade secretive, okay. It's frustrating. Helis's policy is for a full disclosure, and they will work with their contractors to make sure that there are no trade secrets. If we're going to put the chemicals there, we will tell you what those chemicals are, and that's the procedure that will be followed in this instance.
Q So that information would be freely and publicly available after a completion is made; is that correct?
A Yes, that's right. All that data will be publicly available.
Q All right.

MR. HENRY:

Now, again, I'm going to ask everybody if they could keep their outbursts --

BY MR. REVELS:

Q All right. Your next series of exhibits relate

to the number and location of water wells in the area, if you would discuss it?
A That's right. We've looked really closely at where the water wells are, and certainly, in terms of environmental protection, probably the first point of interest is the water wells. There are a lot of water well users in St. Tammany Parish. In this particular area, we have 122 wells in the community of Mandeville over to the east here -- the west. I'm sorry. I got it backwards. And we have -- right where we are here at the Lakeshore High School, there are two wells. One of the deepest wells in the county (sic) is 1,200' right where we're standing.

So, if we look at the distances out, there aren't any wells within a half mile, there aren't any wells within a mile, but at a mile and a half to two miles, we start picking up some wells, that's a long ways away. Obviously, it's still important to be protective of those wells.

An important feature of this -- I don't know if you all can see this -- is this big blue arrow line here. Another thing we're really concerned about is, which way is the water moving. So the water in the aquifers under this site is moving very slowly down towards the Gulf, and it moves in a south-southwest

direction, so that means it's not moving in the direction of Mandeville. It's not moving in the direction of the high school. It's actually moving in the other direction.

AUDIENCE MEMBER:

(Inaudible.)

A You guys aren't digging this animation here or what?

So what I'm going to do now is kind of show this in a 3-D perspective, because I think it's important, not only to understand just how far away we are on the -- as the crow flies, but how deep it is.

AUDIENCE MEMBER:

It's hard to see.

A Yes, it's kind of hard to see. I'm sure.

So I'm going to zoom in on this. There is a cross-section here. This is where the freshwater is. This is where Helis's well will be, and there is a casing down to 4,000'. Let's zoom in on that one. We can see a little bit better, not great because this is -- it's a big gym and a tiny screen.

For those of you all that can see this, I'm trying to show where the wells are with respect to Helis's well, and here we are at the high school, that's the deepest well in the area at 1,200', that's

pulling from the Evangeline Aquifer. Helis's well is here in the middle. It has solid casing down to 4,000'. And then, in Mandeville, there are wells encountered at two different depths. There is a lot of wells that are around 250' deep, and then there is a bunch of more wells around 500' deep.

Our plan is -- I'm jumping ahead on this a little bit, but our plan is to put in -- can you go back for a second here? There will be monitoring wells put right on the site at depths that will line up with these different wells, and I'll talk about that more in a minute.

So this slide, which you also might not be able to see, sums up all that information about these wells. We've counted every well in the area and how deep it is.

So, here again, we have the Helis well which is cased solid down to -- let me see if I can do this right -- down to 4,000'. There are 64 water wells within two miles that extend to about 530'. There are 48 wells at -- they go down to 250' within two miles, and none of those were within a mile. The high school well here, this is the one public water supply well here, it goes down to 1,200'.

This blue area that we're talking about is -- I

think you all are familiar with the Southern Hills Aquifer system. The Southern Hills Aquifer system is a system. It's a system of on the order of 12 different aquifers that are stacked up on top of each other. There is the Chicot Aquifer, which is broken into the Upland Terrace and the Upper Ponchatoula, that's where most of the residential wells are. They get good water out of that. There is the Evangeline-Equivalent Aquifer, which actually is four other -- five other aquifers all separated by plays. So, even though it looks like it's all blue here, it's actually sort of like a stack of pancakes where you have sand and play, sand and play, sand and play, and different aquifer units that make up this very large system. On the Jasper, there's four more aquifers. The separation isn't perfect, but it's perfect enough that you can get water out of some and not out of others. So that's the system that has to be protected, so --

BY MR. REVELS:

Q All right. You now have a series of exhibits that demonstrate the unlikelihood of any contamination posed by hydraulic fracturing to underground sources of drinking water, if you would discuss those?

A Yes. There are a couple of -- there are a number

of concerns that people have about hydraulic fracturing. I think that you all are those -- you all are aware of those, and there is one that I want to talk about that doesn't happen before I talk about one that does happen.

The one that doesn't happen is uncontrolled fracture propagation. Here again is my diagram of an idealized well. Here I've got the casing coming down through freshwater, down through about 9,000' deeper until it gets into the Tuscaloosa Marine Shale, and here I've idealized that there's a house on top of this, which there isn't but I'm saying there is. So the concern that a lot of folks have is that I'll start fracturing and the fracture will go so far that it will connect this marine shale, and all the chemicals I put in there will come up and get into one of these aquifers or get into somebody's well, that is a concern that many people have about hydraulic fracturing. That absolutely can't happen here, and I'll tell you why it can't happen here.

It can't happen, first of all, because it takes tremendous amount of energy to split a rock under water. You pump up a bicycle tire, right, not that easy to do, yet you're using air pressure just to fill a tire. If I'm using water pressure to split a rock,

it's a tremendous amount of energy, and as much energy as companies have been able to use and as much as effort as they make, it's hard to get that fracture to go 100'. It's really hard to get it to go past 300', and it's impossible to get it to go 9,000'. It's just not physically possible.

And there's another reason. The second reason is that, as that fracture -- if that fracture comes up and it encounters a sand unit, it's all over. It's like rain into a gutter. The fracture can't go through a sand, and there are many, many sand layers. So this particular issue is not an issue in St. Tammany Parish.

AUDIENCE MEMBER:

(Inaudible.)

A There's another issue -- that is an issue, and we're going to talk about that now. Let's go ahead.

So the issue is that, when you have a problem with a hydraulically-fractured well, the problem has been the casing and cementing on that well. There have been cases where it wasn't done well. It's very rare. In Pennsylvania, the DEP did a survey and found that zero -- it only happens 0.25 percent of the time, so 99 percent of the time you don't have that problem.

So what do you do to avoid that problem?

AUDIENCE MEMBER:

(Inaudible.)

A Okay. So what measures do you take to make sure you protect the water and that the wall integrity or a casing problem doesn't happen?

Well, this is how you do it. This is how Helis will build its well. First, there will be a conductor pipe put in to 120'. This is a big diameter pipe that is pushed into the ground to stabilize the ground. Then, inside of that, they will drill a surface casing down to 4,000', that's all the way through the groundwater zone. Then that casing will be cemented in place 100 percent up to the top, and that cement is pressure tested to make sure there are no holes or failures in there. It's tight. If it's not tight, it's repaired with what is called a squeeze job. Then, from there, an intermediate casing goes all the way down to 12,260', that intermediate casing is then cemented all the way to the surface. Then that intermediate casing is pressure tested to make sure there is no faults or leaks in there. Then it will also -- it's tested with what is called a cement bond log to make sure that cement is tight. It's like a sonar signal. After that, if the well is successful and if it's a viably -- economically viable, a

horizontal section will be put in, and then it will be cemented up inside the production casing.

The purpose of this is to provide a triple barrier between what is in the Tuscaloosa Marine Shale and what is inside the well and in the water out here, so you would have to have three barriers that fail. First, the production casing would have to leak. Then the seal around that would have to fail. Then the intermediate casing would have to fail. Then the concrete seal around the intermediate casing would have to fail. Then the surface casing would have to fail, and the concrete seal around the surface casing would have to fail. That is the safest way you can build a well, and that's why -- Helis has chosen to build it like this. There have been other wells in the country that had problems, but they weren't built like this.

AUDIENCE MEMBER:

(Inaudible.)

BY MR. REVELS:

Q All right. You have demonstrated that the proposed -- hydraulic fracturing poses little or no risk to the aquifer, but what --

AUDIENCE MEMBER:

(Inaudible.)

BY MR. REVELS:

Q -- but what steps is Helis taking to corroborate this?

A Okay. Well, the question is that they have plans in place to make sure they build this right. Well, how do you know it's built right? You've got to check it. You've got to monitor it.

In the state of Louisiana, there are not presently requirements to do this monitoring. Helis works a lot of other states, and they do this monitoring as part of their operations. It's a good practice.

So the first thing they're going to monitor is the groundwater. They're also going to monitor the air. They're also going to monitor the storm water, and they're also going to monitor the noise. All those things will be monitored before, during, and after.

Now, I'm going to talk about groundwater first. I told you before that there were 122 wells out to the west, and Lakeshore High School up here to the north. The states that require groundwater monitoring require it within a half-mile radius. Helis's plan is to go out to two miles, that's where folks live, that is where folks are concerned. So this radius of

monitoring will go out two miles away, it will include the high school, it will include the residential area over here.

In that area, there will be two types of monitoring for groundwater. First, there will be wells from this group that will be monitored -- actually, household wells and the high school well, of course, will be sampled before any drilling is done, they will be sampled during, they will be sampled periodically after to see there's any effect. They are pretty far away, so it will be a second level of monitoring that is done inside that area.

And this is a little zoom in for those of you all that can see that of the pad itself. And on the drill site itself, which is about a three-acre area, there will be three clusters of monitoring wells. There will be a cluster on the north side, this is the direction of the high school; on the west side, this is in the direction of the community; and on the south side in the direction of Lake Ponchartrain. There will be wells specifically screened (phonetic) to be at the same depth horizon as those household nearby wells. So, if there were anything to escape this site, it would be detected long before it could create a problem. Certainly, it's certainly not expected.

The well is being built in a way that -- where it wouldn't happen, but it's important to test and verify.

Q And, Mr. Conner, who will do the testing and with whom will those results be shared?

A Helis's plans call for contracting with a professional environmental engineering company, a consulting company, and a certified laboratory in the state of Louisiana to conduct that sampling and testing, and my understanding is that information will be shared with the community on all these monitoring programs, the air monitoring data, the groundwater monitoring data, the storm water monitoring data, and the noise information will be made publicly available.

Q All right. Now, I'm assuming all this monitoring and testing is quite expensive; is that correct?

A It's -- yes, it's quite expensive.

Q And is it required by any of the existing regulations?

A It's not required in Louisiana, no. The groundwater monitoring is required in some states, but the air monitoring, the storm water monitoring, and the noise monitoring aren't required anywhere in my experience, but all four types of those monitoring will be conducted for this project.

Q And does this represent just one more example of Helis attempting to go above and beyond the existing or minimum requirements?

A This is an example, yes.

Q All right. Your next couple of exhibits relate to storm water, if you would discuss those?

A Yes. One of the other areas of monitoring that I mentioned was storm water monitoring. This really reflects that, if you were to spill something on the site, where would it go? Will it -- how will it be contained? If you spill something in your kitchen, where does it go? Well, this is an oil site. If we have an oil spill, how do we control that? We're in the middle of a wetlands.

This is the site. I'll zoom in here, and now this white area you see is the actual pad area. It will be a graveled area with board mat placed on top of it. It's -- everything that Helis will do will be within that area. Everything they do is in that area. In that area will be a number of engineering features to control and prevent spills.

So the first is, there will be a rainwater holding pond built 50' by 50'. It's a small pond up in the northwest corner, and then drainage ditches will be built around the perimeter of the site such

that any rainwater or any spill on the site goes right to that pond. Then, in addition, there will be dikes built all the way around the pond -- or around the site. What is a dike? A dike is like a --

AUDIENCE SPEAKER:

What's it lined with?

AUDIENCE SPEAKER:

Nothing but plastic.

A They are plastic lined so that -- they're built with soil and you drape them with plastic to make them impermeable, so that -- and they look like a small levee, you know, just a few feet tall. So any spills inside that area are contained. It's a very important environmental feature. It's a very important safety feature. If there were -- in spite of all the safety measures put in place, if there were a fire or any type of accident, this system serves to contain that, and that's important.

BY MR. REVELS:

Q All right.

A And, finally, when that rainwater comes to this pond, it will be monitored there. It's going to be sampled and tested according to the approved government plan, and if there's anything in that water, it will be filtered and treated before it's

discharged, that's good operating practice.
Q All right. There will be some waste products that are produced in conjunction with oil and gas. What sort of waste products are we talking about, and how will they be disposed?
A There is two types of principal waste products that are associated with a drilling operation. First, is dirt. You're going to drill a hole into the ground. The target is 13,000'. It's a lot of -- you're going to dig a lot of dirt out of the ground, so that dirt which is called cuttings and the mud that is mixed with, the drilling mud, those two items are solid material. They will need to -- they will be containerized and hauled to an offsite disposal facility outside of Tammany Parish -- St. Tammany Parish. There is a lot of those in this area, and that will be determined what is the most appropriate.
In addition, there is water. After the fracturing is done, some of that water comes back out of the hole. It's salty. It needs to be -- it will be contained, and it also will be hauled out of this parish to be disposed in an injection well.
Q So Helis is drilling with a closed-loop system, and all of their produced fluids, the produced solids, are all transported to a commercial waste facility,

and you can see from that slide that none of those facilities are located within St. Tammany Parish; is that correct?
A That's correct, yes. And that's an important feature, what I think Dr. Bourgoyne talked about, it's a closed-loop drilling system. There are no big mud ponds. There are no big saltwater ponds here. In fact, there aren't any. It will all be containerized in tanks. It all goes off the property. There will be no mud pits left here. There will be no waste left on this site, that's why the footprint of the site is so small.
Q All right. Your next exhibit relates to considerations that went into selecting the drill site location, if you would discuss it?
A Well, I think a big issue about this site is that it is in a jurisdictional wetlands. This area -- a lot of the area around here, you know, where we stand today is tree farms, and the tree farms have been around so long that they're not subject to the Clean Water Act Section 404, which is the wetlands act, but when Helis comes in here or anybody else comes into these areas, they are subject to those regulations.
Those regulations require that any type of footprint that you make out here has a minimum impact

on the ecosystem, and there are a number of steps that Helis has gone through with its consultants to figure out how to do that.
So the first is, if -- we used infrared aerial photography and LIDAR our maps to map out very carefully where the wetlands are in the orange, and it picked an area out here to try to minimize the amount of wetlands that would be affected by this pad. They also made the pad, working with the Corps of Engineers, really small.
Secondly, we're using an existing roads. We're not building new -- making any new roads through a wetlands area, that's consistent with the API Guidelines HF 3.
They also wanted to get as far away as they could from local communities, be outside the Coastal Zone, and still hit their target geological formation. So that -- balancing all those different controls and objectives is why the site is where it is.
These applications were reviewed by several different agencies. They're still reviewing them today. The Louisiana Department of Environmental Quality, U.S. Army Corps of Engineers, Louisiana Wildlife and Fisheries, USEPA, and Louisiana Geologic Survey confirmed that there were no less damaging

areas that could be used for producing this oil and gas.
AUDIENCE MEMBER:
This feels like a filibuster. When do we get to speak?
BY MR. REVELS:
Q And one follow-up question on site selection. It's a proposed unit well, so, clearly, now that a unit has been formed, the location needs to be at a legal location inside the subject unit; is that correct?
A The well must be inside the dotted-white line, yes.
Q All right. The next topic, our opponents are, of course, concerned about possible detrimental environmental effects associated with the planned benefits.
One potential area of concern is the effect on endangered species, if you would discuss your next exhibit?
A Right. There are four endangered species in St. Tammany Parish area, in general. There's the bald eagle, there's the manatee, there's the red-cockaded woodpecker, and there's the dusky gopher frog. This frog is part of the evaluation. This is part of

the --

MS. JORDAN:

I'm going to object to him testifying about endangered species. I didn't hear any expertise on that matter, so I'm going to object to it.

AUDIENCE MEMBER:

(Inaudible.)

MR. HENRY:

All right. We're going to take that objection under advisement, but it's duly noted.

MR. REVELS:

We're almost through.

MS. JORDAN:

So you're going to let him testify about endangered species?

MR. HENRY:

I am going to let him testify, and it is going to go to the weight.

MS. JORDAN:

So it's denied. I just want to put on the record that it's denied, because, again, taking it under advisement and then letting him talk about it is denying it, so it can just be clear for the record.

MR. HENRY:

It is not denied. It's taken under advisement.

MS. JORDAN:

So he's going to move on to another topic then, or finish -- or finish?

(No response.)

Okay. Thank you.

BY MR. REVELS:

Q Go ahead.

A The biologists on my staff have reviewed all those records regarding these frogs, including the surveys that have been completed by the Nature Conservancy and the U.S. Fish and Wildlife.

The dusky gopher frog was last seen in this area in 1967. Today, there are a population of 250 of these frogs that live in three ponds in Mississippi. Those ponds are over 60 miles away. However, the U.S. Federal Court determined that some of the property in St. Tammany Parish could serve as what is called critical habitat for those frogs if they were to be reintroduced.

So there's critical habitat area number one, which is one of 12 that the U.S. Fish and Wildlife has designated, is located in St. Tammany Parish about ten miles east of here. It consists of the last pond

where that frog was seen in St. Tammany Parish in 1967, plus four other ponds that are nearby that could be a viable habitat. So there are none of these frogs on this property. There will be no drilling in this -- there will be no intersection of this drilling project with this habitat, but it is within the area.

Q All right. This is your last slide. I know everybody is (inaudible).

There are other issues relating to public safety that Helis has taken into account, if you would briefly summarize those?

A Yes. We've talked about some of these issues. We haven't talked about all of them. I've checked these off.

There's air monitoring and emergency response. Noise and traffic I haven't talked about. We have availability of all of those things. We've found that the procedures in place are satisfactory or above average, and I'm prepared to talk about those on cross.

Q Thank you.

In conclusion, Mr. Conner, in your expert opinion, have the proposed operations by Helis been designed in a manner to minimize the environmental impacts and public safety risks to the maximum extent

reasonably possible?

A Yes.

MR. REVELS:

That concludes our direct presentation. I tender the witnesses.

MS. JORDAN:

Hello. Testing.

My name is Lisa Jordan. I represent the Town of Abita Springs.

I want to start by offering an introduction, a student-attorney form for Ms. Caroline Wick that is required for the records so that she can represent the Town of Abita Springs.

MR. HENRY:

Sure.

MS. JORDAN:

I'm going to try to be brief because people are leaving, and they came here to speak and that's a big reason why we asked for this hearing.

I've been asked to ask you all not to applaud.

Okay. I'm also going to be brief, and another thing I want to put on the record is that this packet of information was just presented to

us and our expert at the hearing today. So this detailed cross-examination that they think we're going to do is not going to happen because we didn't have the information. We had about six pages of mostly letters, that was everything submitted into the DNR record before today.

So -- okay. I also want to put on the record that we allowed, you know, them to testify. We didn't cross them as to their expertise, and we just want to say that we're not accepting that they're experts and that we just accepted it for purposes of the hearing so it could go quickly, and we're not accepting that, nor are we necessarily accepting the evidence they submitted. For purposes of the hearing, we accept it, but for future proceedings, like court proceedings, we are not agreeing to their expertise or to the authenticity of their documents.

I'm going to start with Mr. Dale. I'll just go in the order that you all went in.

CROSS-EXAMINATION OF BILL DALE

BY MS. JORDAN:

Q I have a few questions for you.

You testified at the unitization hearing that

Helis -- when they applied for their unit; is that correct?

A Yes, ma'am, that's correct.

Q Okay. And that's a big part of what you do, right, you testify for different companies for their unitization hearings; is that correct?

A Yes, ma'am.

Q And for the most part, you've worked for industry; is that correct?

A That's correct.

Q Have you ever testified against an oil and gas company?

A Yes. I've opposed -- I've had opposing sides at Conservation hearings before, yes.

Q You've testified for the public before?

A Yes, I have, yes, ma'am.

Q When was that?

A I don't have the dates for you. It's part of the public record. You can look it up.

Q I just meant like a name, an example of a name, or something like that.

A It's not uncommon for geologists to do the consulting, but I do -- I represent, not only oil and gas companies, but in some cases, landowners, at the public hearings.

Q Okay. Landowners who oppose the unitization?

A They might be opposed to a company's plan. I'm representing them -- on their behalf in those matters, yes.

Q Okay. And so it's correct, isn't it, that this information that we have here was not presented at the unitization hearing; is that correct?

A I think I stated that one exhibit was. The unit that you see depicted on many of the exhibits was presented there. Some information was.

Q But the vast majority of it was not; is that correct?

A That's correct.

Q Okay. And so is your application before the DNR for a drilling permit complete at this time?

A I'm a geologist. I didn't submit the application. I assume it is so.

Q Is there someone who is a better person to ask that question of?

A Yes. One of these engineers reviewed that application. I think they can answer that.

Q Okay. All right. Moving on -- hang on one second.

You testified about the other wells in the area; is that correct?

A Yes, ma'am.

Q And none of those wells that you talked about, like the Keller Heirs Well, which is the closest one, that was not a productive well; is that correct?

A That is correct.

Q And it's correct that the Louisiana Geological Survey said that there's maybe a 50/50 shot of you all actually finding oil in this area; isn't that correct?

A I'm not sure about that.

Q You're not familiar with the Louisiana Geological Survey meeting that your colleague talked about?

A I saw their report, but there was no -- there is no other feasible location, besides this one.

Q You did not see the report that said there was a 50/50 chance of finding oil at this location?

A I don't recall. No, ma'am, I don't recall seeing that.

Q Do you disagree with that conclusion?

A No. I think -- no. Do I disagree with the conclusion that there's a 50/50 chance? I think there is actually 100 percent chance that there is oil at this location. Whether it is economical to extract it, that is another question, but I believe -- if you would refer to the study done by the Basin -- by the Basin Institute Research (sic), they did a paper on

the Tuscaloosa Marine Shale and it is oil bearing, and they have a rather broad area that is depicted as included in the Tuscaloosa Marine Shale, which is St. Tammany Parish. So I believe there is oil at this location. Now, whether it's economical to extract it at this oil price and at the cost, you know, I can't answer that, but there is oil there. I would say, yes.

Q You're talking about the Lake Ponchartrain Basin Foundation, is that the institute you were just --

A No. This is the Basin Research Institute --

Q Okay.

A -- that did a study on the Tuscaloosa Marine Shale and about this resource. This was done for a lot of the drilling that was done -- that started, you know, in the Florida parishes in 2011.

They talked about the Tuscaloosa Marine Shale is a resource play. They say it's potentially seven billion barrels of oil present there, and that maybe one day the technology would advance to such a point where it could be extracted commercially, so that's part of --

Q You're talking about the --

A It's a public paper.

Q I'm sorry. I don't want to talk over you. Go

ahead and finish.

A It's a public paper, and it states that oil is bearing in the Tuscaloosa Marine Shale throughout the study area, which is -- I would have to refer to the paper and the maps presented there. You can see St. Tammany Parish is included.

Q And that means this particular point, do you think they were saying that this particular spot you want to drill has oil?

A Yes.

Q That's your interpretation?

A Yes. I would say, yes.

Q One hundred percent?

A Yes, ma'am.

Q Okay. So you disagree with the Louisiana Geological Survey's conclusion that there's a 50/50 shot?

A I'm not sure exactly -- 50/50 chance of what?

Q Finding oil.

A I can't comment on that.

Q Okay. I'll move on. One second.

You testified a lot and you had a lot of -- and correct me if I'm getting the wrong person because it was confusing for me to have three people go and then to have to cross, so I'm not intending to be tricky if

I'm not -- if it's not you, tell me it's not you, but I think it was you that had a bunch of slides that you showed that showed like the forests in the area and the development over time. Was that your slides?

A Yes, ma'am.

Q Do you have a degree in forestry?

A No, ma'am. I have looked at a lot of aerial photographs, but I do not have a degree in forestry, no, ma'am.

Q Do you have a degree in engineering?

A No, ma'am.

Q Okay. Or land use planning?

A No, ma'am.

Q Okay. Let's see.

You said that there were 76 wells in the parish that Helis had?

A At least 76 wells in St. Tammany Parish that have penetrated deeper than the base of the Southern Hills Aquifer system.

Q Were those Helis wells or just all together, you're saying?

A That's all together.

Q Okay. And how many of those are fraced wells?

A None.

Q None? Okay.

You testify about the requirements to get a permit, and you talked about one requirement is that you have to be 500' from the nearest was it structure?

A Structure, yes, ma'am.

Q Structure.

What are the other requirements to get a drilling permit from the Department of Natural Resources?

A I didn't testify to any of --

Q Well, I -- okay. Actually, you did. You said, one of the requirements to get a permit is that the structure be 500' away, that was your testimony, right?

A Right.

Q And you're saying now that's the only requirement that you're aware of, you don't have knowledge about the rest of it?

A I'm just saying I didn't testify to any other --

Q Okay. Well -- okay. Do you have knowledge about what the requirements are to get a drilling permit from the Department of Natural Resources?

A Yes, ma'am, in general, yes.

Q Okay. Other than that 500' requirement, other than that 500' requirement, what are the other requirements to get a permit to drill 13,000' under the -- and through an aquifer? What do you have to

show DNR before you can get that permit?

AUDIENCE MEMBER:

(Inaudible).

MR. REVELS:

I just object. I'm happy for her to ask the requirements to getting a permit to Dr. Bourgoyne, that was his direct testimony. The cross-examination is supposed to relate to direct. If she really wants to know that information, let her talk to the witness that testified as to that.

MR. HENRY:

If the witness can answer the question, I'll let him answer, but, if not, would you move on, Ms. Jordan?

BY MS. JORDAN:

Q So what are the requirements -- other than the 500' limit, what are the other requirements that a company has to show to get an oil and gas permit from the Louisiana Department of Natural Resources?

A I would rather defer to the exhibits and the expert's testimony.

Q I'm sorry, sir. You said that you had that knowledge, and so I know what you'd rather do, but you've just been instructed to answer the question if

you can. If you don't know and you can't --

MR. HENRY:

Ms. Jordan, it appears he wants to defer to the other witnesses.

MS. JORDAN:

I'm sorry, sir. You said, if he has the knowledge, he can answer. He has the knowledge. I'm asking him. We're trying to move quickly here. He said he has the knowledge, and so he should testify about it. I don't care who he'd rather talk about it. I'm asking him.

A I testified about one exhibit that showed no structures within 500', which is a requirement that Helis must fulfill. The surveyors go out and look, and I testified to that exhibit. So, if you have any questions about my testimony on that exhibit, I'd be happy to answer them.

CROSS-EXAMINATION OF ADAM (TED) BOURGOYNE

BY MS. JORDAN:

Q Okay. Mr. Bourgoyne, are you the person I'm supposed to be asking this of, you're the one that has rehearsed this testimony?

A I did testify about the requirements of a drilling permit, yes.

Q Thank you.

My colleague was going to do your cross-examination which is why I don't -- really didn't want to do this, but I want to move quickly.

So what are the other requirements?

A Well, it's laid out fairly clearly in both Louisiana Revised Statute 30:28 and in Conservation Order 29-B, Section 103.

Primarily, you have to pay the appropriate fees. You have to provide the location plat as specified and certified by a surveyor or engineer showing structures within 500'. You have to follow the regulation regarding a 30-day re-entry notice, and fill out an affidavit to the effect that those have been submitted, and that completes your application. You know, along with the check, you send it in, and DNR -- or Office of Conservation has to process the permit.

Q I'm sorry. Say that last part again. I talked over you. I'm sorry.

A You send it in and the Office of Conservation processes the permit. Either it issues it or it denies it.

You know, there is financial requirements also associated depending upon, you know, how long the operator has been operating in Louisiana, and what their financial wherewithal are, and what their record

of compliance has been while operating within the state.

Q Okay. So, other than the paying your money, doing a little map that you call a location plat, making sure anybody within 500' has been notified and having a hearing if they have, and maybe some financial security requirements which we're not sure the details of, that's all you have to do to get a permit to drill through a sole-source drinking water aquifer?

A That is all that is required to submit a permit. The Commissioner of Conservation has the authority, as I understand it, the sole authority, within the state to either issue or deny the permit.

Q Okay. So that's what -- and that's what it's based on, the things that you just told me?

A Yes.

Q Okay. And so all of these things that -- well, I'm not going to ask you this, so let me move on. I'm sorry. Let's see.

CROSS-EXAMINATION OF BILL DALE

BY MS. JORDAN:

Q And back to Mr. Dale again, just a few more questions.

You've had a lot of experience with drilling

permit applications; is that correct?
A No, ma'am.
Q You have not? Okay.
How many have you handled?
A I don't submit drilling applications. I'm not an engineer. I'm a geologist.
Q So --
A It's not in my area of expertise, that's not what I specialize in.
Q So what have you done then, what is your -- I notice your qualifications were accepted pretty quickly. They obviously know you here. So what do they know you from? You've obviously been before them many times, the DNR I'm talking about? What is your experience, if it's not drilling permit applications?
A Well, I've also done oil and gas exploration, whereas, an independent geologist I study well logs, map -- make cross-sections, isopach maps, whatever, in search of pockets of oil and gas that have not yet been produced, market that to industry, so oil and gas exploration, as well as being an expert witness.
Q So you don't have a whole lot of knowledge you're saying about the permit application process to the DNR. You haven't been involved in any of those, is that what you're saying?

A That is an engineering thing. I'm not an engineer.
Q So is it yes or no? I just want a yes or no.
A No.
Q Okay. Thank you.
MS. JORDAN:
Can everybody hear me or no?
AUDIENCE MEMBERS:
Yes.
CROSS-EXAMINATION OF ADAM (TED) BOURGOYNE
BY MS. JORDAN:
Q Mr. Bourgoyne, I'll ask you, do you have a lot of experience with drilling permit applications before the DNR?
A Generally, you know, hearings in regard to DNR for drilling permits is a very uncommon thing, you know. Generally, if you fill out the appropriate requirements and send it to DNR, they make a decision based on that.
Q Right. And it usually happens pretty quickly; isn't that correct?
A I don't know. I think, generally, you can get it done in a reasonable period of time, yes.
Q What would that be to you? What is the typical turnaround time from when you submit an application to

the DNR to when they approve it?
A I haven't studied turnaround time. I'm sorry.
Q You don't have any experience in that that you can give me any idea, days, weeks, months?
A I don't think -- within a period of a month, you often get your application filed and, you know, maybe in some cases sooner, but, again, I don't have any statistics on this. I can't really give you something I haven't studied.
Q Okay. Let's see.
CROSS-EXAMINATION OF BILL DALE
BY MS. JORDAN:
Q And, Mr. Dale, I think the last couple of questions for you.
You said Helis selected a spot on the south side of the unit, and so the only horizontal that Helis plans to drill is that one horizontal you showed in your slide?
A At this time, I think the testimony is that they are going to drill a vertical well, and if results are favorable, they will drill a horizontal. Certainly, if results are favorable, there might be other plans that would stem from that, but I think this is only about this one well at this time, this one permit.
Q It's just about this one.

Is it your opinion that we're going to have more of these hearings for the next one and the one after that, or probably this is the only one?
A I don't know about the hearing process. This is quite unusual to have a hearing on a drilling permit. I don't know about that, hopefully not.
Q Okay. And you said part of the reason you located the unit there was to avoid this school right here; is that correct?
A No, ma'am, I didn't say that.
Q Oh, okay. I misunderstood you.
Why did you locate -- not the unit, I apologize -- why you located the well where you did within the unit was to avoid this school; isn't that correct?
A Well, we talked about two possible locations to drill a unit like this. If you'd look at other examples for the Tuscaloosa Marine Shale in the northern Florida parishes, those wells are usually located either at the north end or the south end of those units. In this case, Helis chose the south end, which is the farthest away from the school --
Q And it wasn't --
A -- and not the north end.
Q And it wasn't because of the school, it was just for some other reason?

A They did choose a location that is very remote. I went out there today. It is in the middle of nowhere.

Q My question was, did they choose that spot -- I'm going to stop after this attempt to get an answer.

Did they choose that spot within the unit in order to avoid, to be as far away as they could, from this high school? I thought that was your testimony; was it not?

A Well, we were talking about the difference between drilling either the north end or the south end. I would say that is probably a fair assumption to a location that is as far away from residences, to be the least interruptive, would be a consideration I think that they took in mind.

Q Thank you.

MS. JORDAN:

I'm going to move on to Mr. Conner now, and I'm going to be quick. I'm going to try to be quick, so, hopefully, you can give me quick answers.

CROSS-EXAMINATION OF JOHN CONNER

BY MS. JORDAN:

Q Mr. Conner, nice job with your presentation. You can give Mr. Somerhalder a run for his money there, huh?

So you said --

A I missed that.

Q I'm sorry.

A Okay.

Q You said that your job here was to -- well, you said your job in general is to deal with environmental problems; is that correct?

A Well, my job is to do environmental management -- environmental management issues for industrial operations, and sometimes those are problems, yes.

Q And so you pretty much work for industry; isn't that correct?

A I've worked for a lot of industry. I've also worked for USEPA and many different state agencies and many foreign governments.

Q And you -- you've testified before, I know, correct?

A Yes.

Q And that's been for industry?

A For many times, it has been for industry, yes.

Q Okay. I have some questions here.

You talked a lot about things that Helis is willing to do that, according to you, go beyond the regulatory requirements; is that correct?

A Yes. I did mention a number of things in that

regard.

Q And so those things that go beyond the regulatory requirements, is Helis willing to put all of those things into a legally enforceable document?

A I know that Helis is doing that. In terms of what sort of legal enforceable document that they are entering into, that's not within my purview. I know that that is the program, that they're going to do those things. I know they've been in conversations with representatives of the community in that regard. I don't know what documentation surrounds that.

Q Have you seen any other documents, besides this printout of the slide presentation, where Helis commits to doing those extra things that you just discussed?

A I've seen some correspondence between Helis and I believe the St. Tammany Parish or perhaps Abita Springs that discussed some of those elements.

Q But nothing that appears legally enforceable; is that correct?

A I don't know to what degree those conversations are legal contracts or not. I'm not knowledgeable about that.

Q Would you have any problem with the Department of Natural Resources conditioning Helis's drilling permit

on all of those extra things that you said Helis was willing to do?

A That's not something in my area to say whether or not that would an appropriate action. I think that they are going to do those things. What action of that nature is irrelevant.

Q One of the things you said Helis is willing to do that's extra and not required is, you said that they will put all of the frac fluid chemicals on FracFocus and make everyone aware of that, that was one of the things that you named, correct?

A Yes.

Q And in your interpretation, that is above and beyond what the regulations require?

A No, that's not above and beyond. The -- what's above and beyond is not to post them on FracFocus but to encourage all of the contractors to not use trade secrets.

Right now, Section 188 of LA 29-B allows for trade secrets. It's Helis's policy to not use trade secretive provisions.

Q Okay. And they would be willing to put that in their permit, as well?

A I don't know what their permit entails. I know that that's their plan to do that, that's their

policy here and elsewhere.
Q But that disclosure that you just discussed where they won't claim trade secret, that happens after they frac the well; is that correct?
A The information on what goes in the well has to posted within 20 days after drilling, and it's posted by the parties that actually do the work. So the contractor does the work, and they need to promptly post that. It's not posted beforehand.
Q So, is it fair to say that going beyond the requirements would mean posting it before you frac the well?
A Well, the requirements aren't to post it beforehand for certain practical reasons, because the chemical mixture that goes in the well is decided on a very site-specific basis, and it's posted by the contractor. If the contractor uses those chemicals, they are immediately required to disclose these. They can't disclose them because they haven't used them until they've used them.
Q Okay. All right.
A That's the practicality of it.
Q Okay. You said that the nearest water well was -- I'm sorry -- a mile and a half away from the drilling location; is that correct?

A The nearest domestic or commercial water supply or drinking water well, yes.
Q Okay. Domestic or commercial, does that include public?
A Yes, it does, yes.
Q Okay. And so is that going from the actual drill site when you measured that mile and a half?
A Yes.
Q Okay. So that wasn't going from the horizontal fracing will be, you didn't determine it from there, correct, because that's a mile you said, right?
A It will be -- on the drawing that you saw, we were looking at the distance from the vertical section of the well which is the point of -- the principal point of concern. We also looked at the distance from the horizontal section of this well to see how far that was.
Q How far was that?
A It's still over two miles away, because the -- you can see it on the drawings that the well -- the horizontal extends to the north and then is roughly one-half mile west of where we are right now. At that point, it's two miles deep, so the -- well, it's over two miles deep. So, being a half mile to -- west and two miles deep, puts it over two miles away.

Q Okay.
A On a straight line.
Q Okay. You showed a slide where you showed the direction that the groundwater is moving. How did you determine that?
A There have been a number of studies that have been done by the Louisiana Geologic Survey and the USGS to measure wells throughout this area to determine which way the water moves, and there's a series of publications that have documented that.
Q So you talked a lot about the monitoring system and that is going above and beyond the regulations, which isn't hard to do, by the way, because the regulations aren't very good, but in connected to the monitoring system, are you all willing to put that monitoring system and all the details about it into a legally enforceable document?
A Again, I can't speak for the legal aspects of that. I know that Helis is working with a contractor to develop a plan, a written plan, that will be made available, and I know that they are in consultation -- my understanding there has been consultation with St. Tammany Parish and Abita Springs regarding the sharing of that information.
Q I don't think Abita Springs. I represent them,

and I would have heard about that, but maybe St. Tammany Parish.
So all of these monitoring wells and all of the extra stuff that you're going to do, you're talking about this particular well; is that correct?
A Yes. We're talking about this well.
Q If this well is successful, it's safe to say Helis will drill many more wells in this area; is it not?
A Well, I don't know about that.
Q Let's talk about if Helis drills anymore wells in this area, anymore wells it drills from one to 100, will you all commit to doing all of these extra things for every well you have in the future or just the one that's getting this hearing and getting all this extra attention?
A I think the question there is that, if anymore wells are drilled, they also require a permit and then that is a separate issue for potentially a separate hearing and a separate permit discussion, and then those provisions would be in question at that time, too.
My understanding are, these are the policies that Helis plans to use on their operations here in St. Tammany Parish. I can't talk in detail about

other wells, but I would anticipate the same protective measures would be in effect for good operations.

Q And they would be willing to do that in a legally enforceable document?

A I can't speak for the legal aspects of that.

Q Okay. The cement that you talked about in your little slide that goes next to the casing, how thick is that cement?

A The cement is -- it varies on the different sections. I don't have that right in front of me. Dr. Bourgoyne may be able to answer that question.

Q I'm sorry. Say that --

A I don't have the numbers right in front of me, but it's a matter of inches.

Q It looks like two inches or something like that, right?

A It's -- it depends on which casing section you're talking about.

Q Okay.

A I don't know the exact distance, but it's a matter of inches, yes.

Q Okay. All right. One second. I'm almost done.

When you talked about the water monitoring, you said you were going to do cluster sampling. What does

that mean?

A Well, maybe I didn't state it clearly. It's a well cluster. It's groups of wells that are right next to each other, so in -- for example, since many of the water wells in this area are 250' and then others are 500' and another is 1,200', there would be a triplet of wells, a cluster of three wells, one which went to 250, another one which went to 500, and the other one 1,200', that was called a cluster.

Q So it measures three different depths?

A Yes. There are three wells that are placed close to each other to test three different depths.

Q How close to each other are they?

A Just depends on physically how proximate you can get them. Sometimes they're 10', sometimes they're 20' away. It's -- you try to put them close together just for purpose of convenience.

Q Because your well pad is only three acres, so you couldn't put them much farther apart than that, right?

A No, you couldn't -- in this case, the clusters are going -- there will be a cluster at the east -- I'm sorry -- the west edge of the pad, one on the -- there will be one well on the north side of the pad, and another cluster on the south side of the pad. They're put close because that gives you the best

confidence of catching a problem early, if there were a problem.

Q Close to one another, but they're supposed to be upgradient and downgradient; is that not correct?

A Yes. With the water being flowed to the south -- southwest, there will be on the upgradient and the downgradient side of the pad.

Q And at that distance, that close together, there's not very much difference between upgradient and downgradient, is there?

A No, there's not much difference. The fact that -- the key thing is that they're very close to the area that you're concerned about. If there's a casing problem, you want the detection well, that center well, to be close to that casing.

Q Two more questions.

One, you talked about the surface water that Helis is going to use to frac the well, and you said you were going to get it from private ponds. What private ponds exactly?

A I don't know which ponds exactly. I know that Helis has been in discussion with different parties to obtain a feasible water source.

Q So you don't have any personal knowledge of what ponds these might be?

A No, I don't, no.

Q And you don't have any personal knowledge of whether the water that ends up in those ponds actually comes from somewhere else, like a stream?

A I know that -- I know that they investigated that fact, but these are not ponds that are connected to any streams. They are shallow lakes or ponds on private property. They are not connected to any other source of water.

Q So you know they're not connected to a stream, but you didn't know which ponds they were? I don't understand that.

A Yes, that's right. No, I don't. I know that there is -- wait, okay. No, I don't know which sort of ponds they are. I know there are a variety of ponds they've looked at.

Q Can you give us an approximate area of where they are?

A I know there's some to the west and there are some to the east, but I don't know specifically which ponds they are.

Q Okay. And a shallow pond, would that -- there's not very much distance -- where did the water in shallow ponds come from?

A It depends on the location of the pond. It can

be -- it can, most of it in this area where you have 68 inches of rainwater -- rainfall every year, it's going to be rainfall. This is a very wet area of the country. It also can be, in some areas if it intersects the shallow groundwater, it will have some groundwater in it because it's a direct communication.

Q How much water is in these ponds that Helis plans to use?

A I don't know.

Q Okay. You don't know that either?

You know it's not a stream though -- it's not coming from a stream, but you don't know how much water is in it.

How much water do they need to frac?

A To do the vertical well section, they estimate they would need approximately 800,000 gallons of water. To do the next section, they will need five million gallons of water to do the horizontal.

Q Okay.

A To both drill and hydraulically frac the horizontal, you will need five million gallons of water.

Q And that is each time they send out a horizontal fracturing pipe or whatever you call it -- each time they do that, each time they horizontally frac a new

area, they need five million gallons, correct?

A Each time they do a horizontal section of this magnitude of length, they would need five -- between three to five million gallons of water for the entirety of the stretch. For each stage, it's 100- to 200,000 gallons of water, then it depends on how many stages you do, what it adds up to.

Q And it's your understanding that there is enough water in this one or two ponds that you've discussed to cover the future plans of Helis to frac in this -- let's just take this unit? Is there enough water in these ponds to cover Helis's future plans to frac in this unit, if this vertical well proves successful?

A I don't know if -- I haven't looked at Helis's plans on future water supplies. I know that is their plans for these wells, and it comports with the State policy --

Q Okay.

A -- to use surface water.

Q Last question.

You talked about the frac fluid and how Helis is going to dispose of it. You said it's going to go in an injection well; is that correct?

A It can go to a number of different locations. There are permitted injection wells in different

parishes in Louisiana, that would be one of the options, that would be a common disposal option, yes.

Q And you actually did say it would go to an injection well, so now you're saying it might not go to an injection well, it might be disposed of some other way?

A My understanding is that it would go to an injection well.

Q And you don't have any idea where that injection well would be?

A The injection well would be one of those that are more proximate to this area, most likely, but there are a lot of injection well companies, and so those contracts haven't been specified yet because they don't have a drilling permit yet.

Q But you're saying it would be some place close by?

A You can see on the map I put up they're not -- they're not really close by, but -- they're several miles outside of the parish, but there's a number of options, different companies that do that work.

MS. JORDAN:

That's it. Thank you.

We have just a few more questions for Mr. Bourgoyne from my colleague, and then I think

we're ready -- we'll be ready for the public, so don't leave.

I'm sorry. I'm sorry. Let me just say -- I'm sorry, guys. We have one witness. We did have two listed, but we're only going to call one so that you all can get out of here, but we really need to put him on. We're going to keep him as quick as possible. I promise.

MS. WICK:

Good evening, Dr. Bourgoyne. My name is Caroline Wick. I'm a student attorney with Tulane Environmental Law Clinic, and I'm going to sit because my legs may give out from underneath me if I stand.

CROSS-EXAMINATION OF ADAM (TED) BOURGOYNE

BY MS. WICK:

Q Have you testified before?

A Yes.

Q Okay. Have you ever testified against an oil and gas company?

A Yes.

Q Can you tell us about that?

A You know, I don't remember the particulars. I've been a professional petroleum engineer for 45 years. During that time, I've gotten involved, you know, with

a lot of disputes. I can remember in and -- you know, and some of the cases don't -- didn't necessarily go to testify.

Q Okay. You've been involved in a infamous dispute, one of the times you testified for BP, correct?

A I did testify for BP, yes, ma'am.

Q What was it regarding?

A It was regarding -- it had to do with the BP accident, the Macondo accident, in the deepwater horizon.

Q Overall, you found that BP's decisions were safe, in accordance with federal regulations, and consistent with industry standards, correct?

A No, I don't think that's a correct --

Q Okay. Did you testify that BP's decision's during drilling had nothing to do with the blowout, explosion, or spill?

A No, that's not correct either.

Q No?

MR. REVELS:

Mr. Henry, let me just make one continuing objection. She can ask whatever she wants that you allow, but just reading -- we're following -- supposedly following the Rules of Procedure that

we use for hearings. It says, cross-examination should be limited to questions concerning the testimony and exhibits presented by the witness. I'm just reading your own rules.

To me, this BP-Macondo is clearly nothing that he testified and nothing relating to his testimony and exhibits for --

MR. HENRY:

Your objection is noted, but I'm going to go ahead and let the questioning continue.

BY MS. WICK:

Q I'm reading from the Court decision here. Dr. Bourgoyne points out that the blowout occurred during the temporary abandonment procedure days after the drilling phase concluded. He concludes then that BP's decision during drilling had nothing to do with the blowout, explosion, or spill.

A No, that's not a correct statement. You're misreading that.

Q Okay. I'd like to move on to your testimony today.

First, I'd like to start, you said that -- my first question is, do you believe that, even if Helis complies with Louisiana's regulations, that they are strong enough to protect the Southern Hills Aquifer, a

sole-source aquifer for St. Tammany Parish?

A Yes. I think DNR and the Office of Conservation does a good job in regulating the oil and gas industry.

Q Are you aware of the STRONGER report?

A Are you talking about the auditor's report?

Q I'm talking about the -- this report right here, this State Review of Oil and Natural Gas Environmental Regulations (indicating)?

A No, I don't --

Q It's an independent agency that reviews regulations?

A No, I haven't read it.

Q Okay. They reviewed fracing regulations, and they found a number of deficiencies in Louisiana's regulations. One problem was that the minimum depth of casing is required to protect the aquifer.

Helis has promised to put in 4,000' of three strings of casing to protect the aquifer here, and there are slides in your presentation here today, if I hear that correctly?

A Yes, that's correct, and that is 600' deeper than the aquifer.

Q Okay. Is Helis going to put that in a legally enforceable document?

A You know, you'd have to ask Helis that, but that's their plan, and I -- that's what -- you know, that's what they submitted that they will do.

Q Okay. Is there anybody here from Helis that can promise that they will put in three strings of casing to protect the aquifer?

A That's in their plan. They've said they were going to do it, so I think Helis has made that promise. I can't promise for Helis. I'm not an agent of Helis that can speak for them in that regard, in a legally binding-type contract, which is what you're asking.

Q Okay. These three strings of casing, can you tell me how thick the cement is to protect the aquifer and how many layers of cement there are?

A I think it's included in my exhibit.

Q I know, but I don't always understand --

A Do you want me to just read out of the exhibit for you?

It's a 17-1/2" hole and 13-3/8" casing, so the space between the hole -- and, of course, the 17-1/2 is the size of the bit. The hole will enlarge some after it's drilled, you know, so you can get your cement sheath thickness based on those two dimensions, if it would fill the space in between. And then the

second cement sheath would be inside of the 13-3/8" casing and outside of the 9-5/8" casing, and that sheath would be 12.415" by 9-5/8". It would fill the space between these two diameters. These are concentric strings, you understand.

Q About the cement, right now Louisiana's regulations have no specific standards or requirements for cement use in well construction, and I'm wondering how Helis is going to test their cement? There is a number of tests that the API recommends to test the strength of the cement.

A Well, the important thing is the check the casing seat, so they will do a -- what they call a formation integrity test, which is a pressure test.

Q That's to test the steel casing?

A That tests the seal between the cement and the casing at the casing seat, at the bottom of the casing.

Q Well, what about testing the actual cement?

A And, in addition, they will run what you call cement bond logs.

Q Okay. We just wanted to make sure that Helis is going to do that, because that wasn't mentioned in the presentation, and, again, it would be great if we could get it in a legally enforceable document. The

cement protects the aquifer.

A It's my understanding that the well plan calls for a cement bond log to be run, but, again, this is between Helis and DNR. DNR is -- and the Office of Conservation are the ones that regulates the industry, and they go out and they -- when the casing is tested, their inspector is there. He witnesses the test and so forth, and they get their weekly record of what is being done, and they make site visits. You know, it's their job to see that it's done safely. They have been given that responsibility.

Q I understand.

A Under the Louisiana Revised Statute.

Q Are you aware of the Louisiana Legislative Auditor report of the Department of Conservation?

A I am aware of it, yes.

Q And are you aware of some of the principal findings in the report that insufficient inspections are conducted, penalties aren't issued, there's no enforcement -- there's no written enforcement process?

A Well, they've had some criticisms. You know, I think like a lot of --

Q These criticisms are written by a Louisiana agency. It's the Louisiana Legislative Auditor.

A Yes, it was, and I think, by and large, the

Office of Conservation agreed that they needed to address some of these things, but, you know, a lot of this just has to do with the available number of inspectors and the number of jobs and so forth.

And a lot of the criticism had to do with the orphan well program, which, of course, has been here for -- you know, an area of concern for quite a long time.

Q I guess my point with this line of questioning is that, if we're going to rely on the Department of Conservation to inspect, maybe we should question that assumption. This report seems to indicate that they're not doing inspections, that they're not issuing penalties, and that there's no written enforcement process.

A Well, I disagree with that.

Q Okay. I just want to ask you a couple more questions about the actual drilling.

Can you tell me what is in the drilling muds?

A Can I tell you what?

Q What's in the drilling muds?

A That they will be used to drill through the aquifer?

Q Right.

A Well, it's mostly water, about 95 percent water,

and about five percent solids. Most of that solid will be bentonite clay. There will a polymer added, is my understanding, to help desensitize the clay so it doesn't turn into gumbo quite as easily. I think they call it PHPA, that -- you know, that is a common surface water-based mud added with -- the mud company has selected is Newpark offices out of New Orleans, and they are a reputable company. All of these products are pretty much benign -- or are benign.

The PHPA polymer is probably one that -- is the only one that I know of that I would say wouldn't go into like food products. The bentonite, you -- sometimes you find in ice cream and in other type of food products. So it's really a very natural system that they're using, other than, you know, just a few chemicals, which are polymers to kind of help --

Q Those are the drilling muds that are used for the vertical well. What about the drilling muds that are used for the horizontal well?

A The drilling mud to be used in the horizontal well will be an oil-based mud.

Q An oil-based.

Okay. Thank you.

Are you going to use diesels and frac the well, to do the actual fracing?

A No. The fracing will be done with a water carrier, water and proppant, probably a proppant that has a higher compression strength, you know, like bauxite or something like that.

MS. WICK:

Okay. Thank you, that concludes my questioning.

MR. HENRY:

We're going to take a short five-minute recess just so everybody can head to the restroom and whatnot, and we'll start back briefly.

(Brief recess.)

MR. HENRY:

All right. If everybody can quiet down.

MS. WICK:

We'd like to start with our opening statement.

STATEMENT BY CAROLINE WICK

MS. WICK:

Good evening. My name is Caroline Wick. I'm a student attorney with the Tulane Environmental Law Clinic, and I represent the Town of Abita Springs.

Abita Springs and the Concerned Citizens of St. Tammany asked for this hearing and the notice and comment period so that the Department of Natural

Resources will sit up and take notice. Rather than rubbing stamping this permit application, as the agency has done with thousands of others, we request that DNR really consider the project Helis proposes.

Phase 2 of Helis's project would involve the movement of millions of gallons of water, thousands of gallons of toxic chemicals, and a very real threat to the Southern Hills Aquifer.

The Department of Natural Resources is required under Article IX, Section 1, of the Louisiana Constitution to conduct an environmental impact analysis on the Helis drilling and fracing project before permitting the project.

The Louisiana Supreme Court, through the Save Ourselves decision, made this requirement applicable to all State agencies' permitting projects that affect the environment.

In the coming weeks when the DNR undertakes its analysis, we urge you to consider the following: First, the potential and real adverse environmental impacts of the Helis project have not been avoided to the maximum extent practicable. Second, the current fracing regulatory regime is insufficient to protect against the potential and real adverse impacts of this project. Third, this project's extensive secondary

and human living impacts must be considered. As DNR has stated, this hearing encompasses future and anticipated amendments to Helis's current drilling permit application.

The impacts of Phases 1 and 2 include, but are not limited to, spills of toxic fracing fluids, contaminated runoff, risks associated with fracing fluid disposals, threats to local water supplies from water withdraw for fracing, and the cumulative impacts of future wells.

In addition, this project includes very real quality of life concerns like traffic and noise pollution.

Fourth, DNR's Constitutional duty includes determining whether there are alternative sites that offer more protection to the environment than the proposed site without unduly curtailing non-environmental benefits. There are alternative sites that offer more protection to the environment than one that requires drilling through a sole-source drinking water aquifer.

Abita Springs and the CCST are concerned about contamination of the Southern Hills Aquifer. This aquifer is the sole-source of drinking water for St. Tammany Parish. Helis's project presents the real

possibility that the town's water source and the water source for thousands of St. Tammany residents could be contaminated.

Tonight we call a professional geologist, Mr. Mark Quarles, to discuss two points. First, Mr. Quarles will highlight deficiencies in Helis's project. In short, this proposal fails to meet basic industry standards and recommendations. For example, the American Petroleum Institute recommends that fracing projects not be located in wetlands.

Second, we draw attention to the risks that Helis's proposed project poses to the Southern Hills Aquifer. The fracing process involves injecting toxic chemicals into areas under the aquifer through a well. This is undisputed. These chemicals, many of which are known carcinogens and/or regulated as hazardous air pollutants, are not routinely tested for by the State or local government, nor can they be tested -- detected by smell, taste, or sight. This is also undisputable.

In short, the possibility exists that untreated contaminated aquifer water could enter the water distribution system. Thousands unknowing St. Tammany residents could consume the water unaware of the toxic chemicals they ingest. This risk exists, despite

Helis's proposal to construct groundwater monitoring wells, and Mr. Quarles will explain why.

Ultimately, DNR must deny Helis's application because it violates St. Tammany Parish's zoning ordinance. Under Section 33:109.1 of the Revised Statutes, DNR is required to take into account the St. Tammany Parish zoning ordinance. Section 33:109.1 states, "Whenever a parish or municipal planning commission has adopted a master plan, State agencies and departments shall consider such adopted master plan before undertaking any activity or action which would affect the adopted elements of the master plan."

If the DNR allows this project to move forward, the character of St. Tammany will change completely and not for the better. While the risks may be acceptable to Helis, they are unacceptable to the Concerned Citizens of St. Tammany and the Town of Abita Springs.

We would like to thank the agency for granting this hearing, and to allow ample time for public comment, we will only call one of our experts, Mr. Mark Quarles. We will not call Mr. Stephen Villavaso, but he will submit an affidavit instead.

Thank you.

MR. HENRY:

Do you guys have exhibits for the panel or opposing counsel?

MS. JORDAN:

What?

MR. HENRY:

Do you guys have exhibits for the panel and for opposing counsel?

Do you have them for the panel?

Thank you.

(Inaudible response.)

MS. WICK:

Good evening, Mr. Quarles, can you tell us your name?

MR. QUARLES:

Can everybody hear me?

My name is Mark Quarles.

MS. WICK:

And where are you from?

MR. QUARLES:

I'm from Nashville, Tennessee.

MS. WICK:

And where do you work?

MR. QUARLES:

I work at Global Environmental Firm in Nashville.

MS. WICK:

And can you give us your educational background and professional qualifications?

MR. QUARLES:

I have a bachelor's degree -- bachelor of science degree in environmental engineering technology from Western Kentucky University, and I'm a licensed professional geologist in the state of Tennessee.

MS. WICK:

And have you ever qualified as an expert before?

MR. QUARLES:

I have.

MS. WICK:

How many times?

MR. QUARLES:

One time.

MS. WICK:

And how many times have you been hired to prepare and offer an expert opinion for litigation or anticipated litigation?

MR. QUARLES:

Numerous times, probably dozens.

MS. WICK:

And can you tell us some about the kind of work that you've done?

MR. QUARLES:

After graduation, I've got about 25 years of experience doing primarily environmental investigative-type work. I started out for the first 15 years or so working primarily on behalf of industry, so Texaco, for example, was a client of mine. I did a lot of petroleum underground storage tank investigations and closures. I did a lot of work for automotive industry, that sort of thing.

The range of the projects would go from storm water pollution prevention plans to hazardous waste disposal plans, superfund investigations, the full gambit, essentially, of all the permits that an industry would need.

MS. WICK:

And can you tell us what you have done specific to environmental contamination?

MR. QUARLES:

Environmental contamination requires a lot of poking of the holes into the ground, so lots of soil borings, lots of groundwater boundary points to determine what's called the major extent of contamination, what type of contaminant is present and the extent and then what risks are associated with those contaminants.

MS. WICK:

And can you talk about the work that you've done related to hydraulic fracturing standards?

MR. QUARLES:

Hydraulic fracturing work has been related to reviewing a permit application process in the state of Virginia, providing comments during the review of that application, and in sitting in front of the Board of Oil and Gas Conservation Montana related to an initial well in -- near the Red Lodge area.

MS. WICK:

And can you talk about the work you have done related to disposal of oil exploration and production waste?

MR. QUARLES:

I've done a lot of work in South America in Peru and Ecuador related to management disposal of exploration and production of solid waste and liquids, particularly the use of pits and dispose of produced water.

MS. WICK:

Have you done work for industry?

MR. QUARLES:

I have. You know, that work, again, during the initial probably half of my career was basically being a hired consultant on behalf of industry.

MS. WICK:

I ask that his qualifications be recognized.

MR. HENRY:

The witness's qualifications are recognized.

Whereupon,

MARK QUARLES

was called as a witness on behalf of TOWN OF ABITA SPRINGS, and, after having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION OF MARK QUARLES

BY MS. WICK:

Q Moving on, have you been hired by the Town of Abita Springs to review Helis's application and to give an opinion on it?

A I have.

Q Are you being paid for this work?

A I am.

Q In anticipation of today's hearing, what documents have you reviewed?

A I have reviewed the 404 Wetland Permit Application that was submitted by Helis initially for the ten-acre pad disturbance and then that was subsequently revised, information that was presented -- given to us for the public hearing and the attachments associated with that, and then the

drilling permit application.

Q And this set of information that Helis gave us today, you haven't reviewed this, right?

A I have not.

Q Would you have like to have reviewed it before -- when forming your opinion?

A Absolutely.

Q Okay. Have you formed an opinion as to whether the potential and real adverse environmental impacts of the Helis project have been avoided to the maximum extent practicable for Phase 1?

A I have.

Q And what is that opinion?

A It -- there's risks associated with that that have not been mitigated.

Q Have you formed an opinion as to whether the potential and real adverse environmental impacts of the Helis project have been avoided to the maximum extent practicable for Phase 2?

A I have.

Q What is that opinion?

A They have not been avoided.

Q And you've heard Helis's presentation today where they have said that many wells have been drilled across Louisiana and within the parish without

incident. Does that change your opinion?

A It does not.

Q So have you also formed an opinion of whether Louisiana's regulations are sufficiently protective of the environment for hydraulic fracturing activities?

A I have.

Q And what is that opinion?

A That they are not sufficiently protective.

Q And how do you know that Louisiana regulations and enforcement procedures are deficient?

A So a good starting point for that would be to look at two independent evaluations of the regulatory program here of the state of Louisiana.

The first report that was done by the Office of Conservation, DNR, which is, again, the organization that issues the permits, is that -- this was done in May 2014, so it's a relatively recent evaluation. Among others, they concluded that DNR does not perform the appropriate routine inspections, they don't enforce the rules, rarely issue financial penalties. Given the fact of all of that, there's rarely -- there is no real deterrent for future ongoing violations, and then there's not adequate bonding to close sites in the event that an operator decides to walk away. Then, of course, you've got -- when they do walk away,

you have these inactive orphaned sites that nobody recognizes are there.

Q So, just to be clear, it was written by the Louisiana Legislative Auditor?

A Correct.

Q Of the agency that will approve or disapprove of Helis's permit?

A That's correct.

Q Okay. And I believe there is a second organization that you mentioned?

A I did. The STRONGER -- STRONGER is an independent organization that is made up by people within the oil and gas industry, advocacy people, experts in the field, and they go and they review state programs around the country, and the states like that review because it's a -- and they volunteer to that review because it's an evaluation, impartial evaluation, of the program.

So the STRONGER audit was done in 2010 and 2011, and they concluded that there was some serious issues related to the regulatory program related to the surface casing and the depth of that casing relative to groundwater and how that casing is used to protect aquifers. Then looking at the casing cement standards, they were insufficient for the pressures

associated with hydraulic fracturing.

Then they also pointed out that the spill prevention provision within the rules really didn't do anything during the drilling of the well because you could drill the well and not have to have a SPCC plan until one year after you actually drilled the well.

Then, of course, they critiqued the staff as not being sufficiently trained in the requirements for hydraulic fracturing.

Q Can you just clarify that point about the spill prevention control plan, so when does the plan actually have to be written?

A So, once you start drilling the well, you have 180 days to prepare the plan, and then you have a year to actually fully implement it after you've drilled the well.

Q Okay.

A So it's really designed for spillages associated with once the well is operational.

Q Thank you.

Helis told us today that they're going to employ the best practices of the industry, and they described those practices. Are the practices Helis described consistent with what you understand the industry's best practices to be?

A They are not.

Q Next slide, that's good.

A So the industry prepared -- starting in 2009, they came out with some minimum acceptable criteria that again the industry prepared. This is what the industry said should be a minimum standard for all things hydraulic fracturing, one being the well construction, well integrity, which integrity means, you know, how well did you construct that so that it won't leak; and then another document for water management including flowback, any water liquid that is generated as a waste, and the frac fluids themselves; and then third document for mitigating surface impacts, for example, you know, a wetland would be an impact to the surface.

Q Next slide.

Can you give us some specific examples of where Helis's project falls short compared to industry standards for Phase 1 with the vertical well?

A Yes. So, on vertical wells, first and foremost, they say you're supposed to avoid sensitive environmental areas, one of which is a wetland. So, clearly, we have a well pad that is right on top of a wetland.

They also talked about the need for formation

pressure testing, which is a determining -- or demonstrating that you've got no leakage whatsoever along the contact of the well through the formation in the cement. Basically, that's a pollution migration pathway, so you're going to have to demonstrate -- one way to demonstrate that is pressurizing that external annulus that's filled with cement and then contact with the formation.

They also talk about the use of mechanical integrity tests, CBL which is cement bond log, temperature logs, that sort of thing on all the casings to demonstrate that, again, you've got that cement casing around that provides a seal.

Q Okay. And the depth of the surface casing, that surface casing needs to be below the deepest level of the aquifer?

A That's right. So the depth of the surface casing has to extend beyond that because that's the sole purpose of the surface casing. So the regulations said, define the depth of the surface casing by the total depth of the well, regardless of the total that -- the depth of the deepest aquifer. So, for example, if the well is greater than 9,000', the surface casing only has to extend down to 1,800'.

Q Okay. Can you give us some specific examples of

where Helis's project falls short compared to industry standards for Phase 2?

A So, you know, the API talks about you have to monitor for and identify any impact to public, private water supply, lakes, streams, anything that there is an opportunity for a contaminant to impact from the surface activities, as well as the fracturing activities. So they require -- or recommend baseline and post-fracture monitoring, and then to demonstrate that your frac didn't get away from you and go beyond your confining layer, they recommend tracer tagging of the fracture fluids. Basically, that's a way to measure how far your frac went vertically.

Q Thanks.

So now that we've talked about how Louisiana's regulations are weak and the project fails to meet some industry standards, let's move to what is on everybody's mind, the Southern Hills Aquifer.

Can you give us some general information about the Southern Hills Aquifer?

A The Southern Hills Aquifer begins up in Mississippi and extends down into southeastern Louisiana, and EPA has designated this as a sole-source aquifer. Sole-source means that it is the primary principal-- virtually all drinking, every time

you turn on a tap, every time you assume that you need clean water to do anything, it comes from the ground.

Q So does -- a sole-source aquifer, what does that really mean for St. Tammany?

And I believe we have another slide.

A So the USGS did a study of St. Tammany Parish water use in 2005, so this is a bit dated.

Top Table No. 1 shows that everyday 22.7 million gallons of water are extracted from the Southern Hills Aquifer and the different layers of the Southern Hills Aquifer, specifically, the Chicot, Evangeline, and the Jasper. You'll see that there is a very small amount of surface water that was withdrawn.

Then Table 2 shows that the vast majority of the 22.7 million gallons a day of groundwater that is withdrawn is related to public water supply and rural domestic, in other words, you know, the water that reaches us when we turn on our tap.

Q Thank you.

Can you tell us about the structure of the aquifer?

A I can. So, again, this is a conceptual cross-section that comes from the St. Tammany Parish. It's an west-to-east cross-section, and so all of the green zones are layers of sand that are aquifers.

They produce potable water supplies for any end user, and so you'll see that this goes down -- the deepest that they've described here is about 2,300'. And what is interesting here is that the white that separates the green, that's a clay confining layer, and the USGS talks about how laterally that confining layer is not always continuous.

Q Why is that important, that it's not continuous?

A Well, if it's not continuous, that means one aquifer -- if you have a contamination in one aquifer, it can migrate into an adjoining-- groundwater adjoining aquifers.

Q And the aquifer layers mix in other ways?

A They can. It's just a function of the -- the confining layer being present, and even if the confining layer is there, the USGS says that those confining layers can leak. So, you know, you've got the two different pathways of the leaky confining layer and then the absence of a confining layer.

Q How do we know what the Southern Hills Aquifer looks like?

A So, if you'll look this, you say, okay, this is the parish, this is an west-to-east cross-section. So you'll see that some of these sand zones vary in thickness, and in some cases, they don't extend from

west to east. So you really don't know what you're going to see when you drill until you actually drill the well. So it's kind of like the box of chocolates, if you will, you never know what kind of chocolate you get until you open the box and bite into it, all right. So you really don't know what's there until you drill the well.

Q And this uncertainty you've shown in the diagram, right?

A It is shown in the diagram, because -- the varying thicknesses of the sand layers and then the absence of some of the sand layers on that diagram.

Q Thanks. Next slide.

So this slide shows the cross-section of a vertical well. Can you explain to us how contamination of the aquifer can occur during the drilling of the vertical well in Phase 1?

A So the drilling of a vertical well, you know, they're going down thousands of feet, so they're going to use a drilling mud to do that. So the mud's purpose -- which, again, the mud has some degree of chemicals associated with that, it's not just bentonite and water, so it's stuff that you would not ordinarily consider it safe to drink. So, when you're drilling this, those drilling muds are penetrating ten

or more layers of sand, according to the USGS report there, and so those drilling muds are in direct contact with those different layers of the aquifer as the well is being drilled.

So, in this case, it is a little bit oversimplified, in that -- and I'll try to use my little laser pointer -- the blue layer up on the top is what -- is the only layer of groundwater that is shown in this diagram, but what's dramatically different for St. Tammany Parish is that you've got multiple layers down several thousand feet of aquifers. So, in this case, they've shown a surface casing with cement that is below the deepest part of that aquifer, and that's the mechanism to be protective of groundwater.

Q Thank you. Next slide -- oh, I'm sorry. Stay here.

Can you explain to us how contamination of the aquifer can occur during Phase 2 of the well completion, in other words, during hydraulic fracturing?

A So the hydraulic fracturing side of it, again, that happens in the horizontal component which is down here, and it's going into this shale zone.

So what's supposed to happen is that you inject

these -- the mixture, the recipe, if you will, of the liquids and the associated chemicals into the vertical component of the well, and then into the horizontal well, and then wherever you have these perforations in the horizontal component, that's where the chemicals are injected, all right.

So the idea is that there's different pathways that the EPA has talked about as far as ability to contaminate an aquifer, one of which would be the vertical migration if the frac got away from you, on a vertical standpoint, and if your confining layer was not sufficiently confining to prevent that chemical, that liquid mixture, to migrate vertically.

The other side -- the other opportunity for contamination migration is to migrate along the outside of the casing in the cement seal that is between, again, that two-inch or inch-and-a-half -- I think the rough calculations of the drilling plans show roughly three inches, so you would have about an inch and a half on certain parts of these that would have cement, so, depending upon an inch-and-a-half seal, to prevent any horizontal or vertical migration outside of the casing.

The other opportunity for leakage is when you drill where -- your well, you have different strings

of pipe that are essentially joints of pipe that might be, you know, between 30 and 60', for example, that are screwed together manually. So, anytime you have a joint connection of -- in this case, we're drilling, you know, down to 12,500' approximately, that's a lot of opportunities for leakages at those individual joints, not to mention too that, you know, you can have failure of the pipe if it's overstressed, you know, due to the formation pressures and if it's rusted and has any holes in it, that sort of thing. So there's plenty of opportunities for leakage for the Phase 1 and the Phase 2.

Q So this diagram shows the cement layer is very thick that you were telling us that it's not?

A The cement layer is just a matter of inches, generally less than two inches, so you're relying upon that connection between the outer diameter of the casing that's filled with cement, between that and the formation. So imagine sticking a well -- a vertical well down 12,000' and trying to keep that well -- that casing in the exact center so that you have exactly the same amount of cement around the entire casing. It's possible that there might be a crook in that pipe to where you would have less than -- less cement on one side of the pipe than the other.

Q And have there been any academic studies about contamination of aquifers?

A So there's been a lot of debate about these contamination cases throughout the country and what causes those, and so there are people who often times suspected that the vertical component of the well was a contributing factor to aquifer contamination. So Duke University did a study. They collected over 100 samples of the Barnett Shale and the Marcellus Shale, and they evaluated those samples and found that I believe it was in eight cases that they had documented demonstration of gases -- natural gas from the target formation that migrated up the vertical component of the well into the upper aquifers.

Q Thank you. Next slide.

Are there any other sources of contamination to the aquifer that you're concerned about?

A So it's a very noble gesture that -- and, actually, it's not only noble, it's recommended by the API, the American Petroleum Institute, that closed-loop mud systems be used so you don't have to, you know, have any pits for your muds and then for disposal of your muds after it's all over.

But the bottom line is, when you look at 404 Wetland Application, which is the only application

that provides any specificity about what this drilling plan might look like, they only commit to doing a closed-loop system for the vertical component of the well. So it's possible that you may find pits, earthen pits, that may or may not be lined during the Phase 2 well construction, which would include the hydraulic fracturing.

So, in this case, other sources that might contaminate groundwater, you have the pits, you have storage in tanks and trucks, chemicals on site. I think they indicated that they would have a ringed levee that would lead -- all roads or all ditches would lead to a 2,500-square-foot (inaudible) collection pond in the back corner, so it's unclear how that was designed and whether or not it was designed to incorporate, you know, precipitation events, such as hurricanes and that sort of thing.

Q And you mentioned these pits, in Louisiana, what type of pit has to have a liner?

A So, by rule, the only pit that has to have a liner is a produced water pit, so all the other pits, emergency pits, workover pits, reserve pits, they're not required to have a liner.

Q And can you talk about the liner that is required for the produced water pits?

A The produced water pits, they do have a numerical standard which determines what the maximum allowable seepage rate would be through either a manmade liner or a clay liner or some combination thereof.

The manmade liner component has to be greater than ten mil, this is a hundredth of an inch thick, it has to be a minimum thickness of that, and then it has a permeability of one times ten to the minus seven centimeters per second. Then you can also use a clay liner. But as a comparison for just typical household garbage, EPA required a liner for a household garbage landfill has a synthetic manmade liner component that's six times thicker than 60 mil, six times thicker than the ten-mil synthetic liner for oil and gas waste.

Q And there are other types of pits that could be here that do not require a liner?

A Yes. So, like the reserve pit, in the event that they, you know, have pits associated with a horizontal well or pits associated with other vertical wells, you know. Because, in their initial application, they talked about I think that perhaps they were going to do up to ten horizontal wells from this site.

Q And will the flowback water pit require a liner?

A So the regs don't specifically mention flowback

water, whether or not -- if it's deposited in a pond is required to be lined, so I assume not.

Q What is this flowback water?

A So flowback water is the water -- when you have five million gallons plus or minus of injected fluids into the aquifer to do the fracture, some of that comes back up to the surface. So there's competing studies about, you know, actually how much water comes back up. So what stays -- of the five million, some of that stays underground, perhaps forever. The part that does come back up is called flowback, so the flowback would have the chemicals that you would expect that you put in it when you injected it, plus it would have some of the formation characteristics. So it's an oil well, you would expect it to have oily components to it, and naturally occurring radioactive materials would be expected, as well. These are called NORMs.

Q And so this flowback water can be deposited in a pit without a liner?

A According to the rules, yes.

Q So what are these chemicals that are commonly used in fracing operations?

A So, back when the whole fracing thing got quite popular in the news a few years ago, everybody started

studying, you know, what are the chemicals and why should we disclose and that sort of thing, so U.S. House of Representatives Committee on Energy and Commerce did an evaluation in I believe it was -- yes, April 2011, and they questioned oil and gas operators around the country and determined there are 2,500 fracturing products commercially available on the market, and of those products, there are about 750 chemicals, and of those 750, 29 are carcinogens. Some are regulated by the Safe Drinking Water Act, meaning the EPA said they're sufficiently harmful so that these should have a minimum -- or maximum concentration that could be consumed without causing any adverse health effects. Some of them are also hazardous air pollutants or HAPs. What's notable here is that, you know, when you're measuring things at part-per-million, part-per-billion range of the Safe Drinking Water Act, you're talking concentrations that are harmful at concentrations that you can't smell, taste, or see.

Q Can we move to the second slide?

What does this slide show?

A This slide, we have three tables. The Table 11 on the left at the top and Table 12 at the bottom, those came from the EPA study in 2012, that borrowed

some of the information from the House of Representative's study, and it shows a list of chemicals that are hazardous air pollutants, carcinogens, or those that are regulated by the Safe Drinking Water Act. What's interesting here is that this is a small list. So imagine that you've got, what, 750 chemicals, EPA has not designated an acceptably safe concentration for every chemical that is publicly available. It doesn't mean that it's not safe. It just means that EPA hasn't promulgated the rule that says what level is safe or not.

In the Table 12 on the bottom, it's interesting, in that, it talks about the chemicals that are most often used in fracture fluids, and methanol, isopropanol, and ethylene glycol -- it's again an antifreeze -- and then, you know, kind of hidden down below that is the light petroleum distillate. So petroleum distillates, whether it's diesel fuel or not, are quite popular as a friction reducer in a fracture fluid.

So, anytime you have petroleum distillates, you have the opportunity -- particularly light petroleum distillates, you have the opportunity for the presence of benzene. Benzene is a known carcinogen at five parts per billion.

So the EPA, on the table on the right, looked at different recipes that are typical for the use of diesel fuel, as an example, in the recipe. So the upper rectangle of red, that's an evaluation of the benzene concentrations, and at the low mixture, the low recipe, they found that the point of injection concentration of the injectant is nine times higher than the safe drinking water standard. At the maximum recipe at ten gallons per 1,000 gallons of water is 880 times higher than the safe drinking water standard.

Q So you heard Helis tell us that 95 percent of the fracing fluids is water and only 0.5 percent is fracing chemicals. Is it your opinion that those chemicals is still at levels that could be harmful?

A They are. So the whole argument, you know, it's 99 percent water, when you're dealing with chemicals that are harmful on a part-per-day range, the 0.1 percent or 0.5 percent really matters. It's very significant.

Q The real question is, what is so concerning about the development of an oilfield above a sole-source aquifer? Did you do a search of the wells in the area?

A We did. We were curious just how many wells in

this sole-source aquifer in St. Tammany Parish, and so, you know, there are so many wells that it crashed -- it crashed my computer when we tried to download through SONRIS, which is a publicly accessible search engine within DNR.

So we narrowed that search to a ten-mile radius, and we chose a ten-mile radius because we looked at the drilling lease areas that Helis has already gotten. So we said, okay, let's look from the center of that ten miles out in all directions. How many wells would be associated with that large development, and what we found was that -- again, it's a sole-source aquifer, so it's not surprising -- over 4,700 water wells for private homes -- excuse me -- 4,700 wells total, of which almost 4,500 were for private homes, and then there were over 200 that were used for public water supply, "public" meaning some utilities, some cities, somebody has -- is pumping water and distributing that to consumers, and then there were lower numbers for irrigation and industrial uses.

What was interesting is that the ranges of those wells, including domestic water supply wells, went from 15 to over 2,000', and they penetrated and were screened in an assortment of the aquifers. If you

recall the conceptual cross-section that the USGS prepared for the parish, you would expect to see wells for domestic and public water supply uses in many of those different sand aquifers.

Q So, if you were going to design a monitoring plan for the Helis project, what are some things that you would insist on?

A So you need to be able to determine the direction of groundwater flow associated with each interval that is of concern.

Q Each of the ten intervals?

A Each of the ten intervals possibly, if you have a migration pathway that would allow that to happen. So, in this case, we don't -- there are often many, many ways that the vertical and horizontal well can fail, right, so understanding where your water supply wells are, what aquifers are tapped, and then equally important is the direction of groundwater flow associated with each of those intervals. Like, for example, if an interval is being pumped, it can draw down and it might be different at one level versus the level below it based on the amount and the rate at which it is pumped.

Q Is there any state or local testing for aquifer contamination?

A The only -- there's no requirement in the rule that you do any baseline or post-frac monitoring of anything, and so API recommends that you do that. What happens is, so if you are Abita Springs, if you are Mandeville, and you have a well, the only requirement that you test that well for chemicals that are associated with hydraulic fracturing is that you have to test your well once every three years or when the well is new.

So, what that means is -- what that means is, you could have contamination in your well, and if it falls -- if it comes to your well the day after you've sampled it when it's clean, then you could be distributing contaminated water to the public or your home without knowing it, and again, these are at concentrations that you can't taste, smell, or see.

Q And, Mr. Quarles, let's say you get lucky enough to find contamination, can it be removed by a traditional water treatment plant?

A So I had a discussion with a representative within the department that -- I think it's called public health and hospitals or something like that, that regulates, you know, public water supply systems, and essentially, there are no treatment plants that actually treat groundwater because it's assumed that

they don't need treating, they're clean. So, in the event that contamination is there, there's essentially no treatment mechanism to remove the different types of contaminates that are associated with the 750 chemicals in the frac water.

Q And if there is contamination in the aquifer and there is money (phonetic) to treat it, how would you get rid of it?

A So what would happen is, so you would test it every three years -- and by the way, the testing requirement is not all inclusive for everything fracture related. So, again, that's where this whole disclosure comes into play, and then too if I want to know -- if I want to know and prove that my well is -- has or has not been contaminated by hydraulic fracturing activity, then I need to be able to test for what -- the fracturing before, during, and after for those chemicals. So the disclosure on FracFocus, it happens after the well is fraced, it doesn't do me any good to demonstrate that those chemicals weren't there prior to fracturing.

Q Okay. Thank you, Mr. Quarles.

MR. HENRY:

Any cross-examination from Helis?

MR. JONES:

Yes.

CROSS-EXAMINATION OF MARK QUARLES

BY MR. JONES:

Q Mr. Quarles, my name is Matt Jones. I represent Helis. Good evening. How are you?

A I'm doing very well.

Q Thanks for your testimony. I just have a few questions, and we'll try to be real brief because I know people want to talk.

A Yes, sir.

Q Okay. Here we go.

All right. First of all, you discussed the performance audit review of the Department of Natural Resources, that had to do primarily with orphaned wells; isn't that correct?

A No, it's really not. It talked -- there is probably more discussions about inspections, the rate of inspections and the rate at which the violations lead to actual post-inspections --

Q With regard to orphaned wells, those are wells I believe you described as where an operator has drilled then walked away. Is that what you described?

A An orphaned well is a well that nobody is claiming responsibility to close it.

Q And we know that Helis has been in business in

the state of Louisiana for 80 years, correct?

A If that's what -- I assume that to be correct.

Q Have you investigated Helis at all to determine how long they have been in business in the state of Louisiana?

A I have not.

Q Okay. So you wouldn't have any way of saying one way or another?

A Okay.

Q With regard to the STRONGER audit, you discussed that for a moment, were you aware that Louisiana put in additional regulations regarding fracing after that audit?

A Yes. I think they came out with the disclosure rule, which is what is called the hydraulic fracturing portion of the regulations.

Q So, in response to the STRONGER audit, Louisiana put in stronger regulation with regard to fracing, correct?

A Put in full disclosure, correct.

Q And in addition, fracing requires an additional permit, were you aware of that?

A The drilling -- the permit -- permit to drill?

Q No. The permit to frac, to hydraulically frac?

A That's right, yes. I am aware of that, and I

think they require that the operator give a 12-hour notice prior to their intent to frac.
Q So there is now an additional regulation and there is an additional permit required, correct, all in the STRONGER audit, right?
A I don't know that it's an additional permit. I think it's just a notification of their intent to frac.
Q Incidentally, do you know what 29-B is?
A I do.
Q And you've read it?
A I've read it, correct.
Q You've read all of it?
A I've read the pertinent portions relative to the well construction and hydraulic fracturing.
Q So you haven't read all of it?
A I can't tell you how many pages that 29-B is.
Q Right. And, just for the record, I believe you said that you are a professional geologist is how you described yourself?
A That is a license path.
Q Okay. And not as a petroleum engineer, correct?
A Correct.
Q Not as Dr. Bourgoyne is, correct?
A Correct.

Q I'm certain that, unlike Dr. Bourgoyne, have you ever taught petroleum engineering?
A I'm sorry. I didn't --
Q Have you ever taught petroleum engineering?
A Have I ever talked?
Q Yes, in a university?
A Have I taught it?
Q Taught?
A I have not, no.
Q My mouth is a little dry, and I'm a little hoarse from screaming for the Tigers and the Saints. You all will have to excuse me.
With regard -- with regard to -- with regard to casing, let's see if we can agree on a couple of things.
You are aware that there is something called surface casing, correct?
A I am.
Q And in this case, can we agree on just a few things? First of all, can we agree that there isn't freshwater below about 3,400' here?
A The deepest I've seen on the St. Tammany report is about 2,300'.
Q Okay. So, if we looked at it, we've even gone deeper than that. We said 3,400' is as deep as we're

going to protect. Can we agree that there's not any freshwater deeper than that?
A I don't know that I can agree, because I haven't -- you don't know until you actually drill the well.
Q But, in this case, the deepest you've found is 2,300'?
A In the published report, that's 2005.
Q In this instance, the Helis casing program is going down to 4,000', correct?
A That is what was presented.
Q So that would be 1,700' below what you've seen as the deepest freshwater, correct?
A Correct.
Q Okay. And then that is going to be cemented into place, and you had several comments on that, correct?
A Correct.
Q Okay. In other words, you said that there should be formation pressure testing, that's one of your comments, correct?
A It is.
Q And you've heard Dr. Bourgoyne say that that's in the well plans, correct?
A I think he talked about the pressure testing of the shoe.
Q Yes.

A And so then -- so the shoe is at the base of the surface casing, so the question is whether or not the formation pressure testing is being performed for the entire length of the vertical component.
Q The shoe is at the bottom, so when you're pressing up on it, that's the part you want to protect, right, that's the part that seals off from the above zones, correct?
A Well, you would be concerned about the full vertical component of the well.
Q Okay. But, in other words, when you're testing the shoe, you're testing the bottom of the cement which is sealing, correct?
A You're testing that portion at the shoe.
Q And you said it's only inches thick, but it's also hundreds and hundreds -- in this case, thousands of feet long, right?
A It is thousands of feet long.
Q In other words, for stuff to get up from the bottom to the top, it would have to go, not just through two inches, but two inches times 1,700' in your view, right?
A Well, like I was talking to the mayor of Abita Springs, and he said that their well is under pressure, it's artesian, so things are under pressure

at 12,000' so you would expect it to rise.
Q So, as far as the protection of the aquifer, which is what we're talking about, you said it was just inches thick, but it's actual -- it's inches thick and thousands of feet long, right?
A That's correct.
Q Okay. Now, you talked about a CBL or cement bond long, you wanted one of those, that was one of your comments?
A That was one of the standards that API talks about.
Q And you've heard the comment that we're going to do that, right?
A I did.
Q Okay. Let's talk about the sole-source aquifer. When you say a "sole-source aquifer," that means that 50 percent or more of the water in the area comes from it, correct?
A No. According to EPA, the reason it fits this description is that it's really the primary source of the drinking water for the area.
Q Okay. In this case though, what we know is, is that there are going to be three strings of casing between the sole-source aquifer, in this case, the Southern Hills, whatever depth it is, and any fracing

that will be going on at 12,000', correct?
A So I saw what seemed to be a conductor casing driven down to about 110'. I don't think that I saw any cement around that. Then I saw -- there was some discussion about the surface casing, then, of course, you had the production casing.
Q And then an additional string of casing inside of that, correct --
A I don't recall that.
Q -- a liner.
So, in other words, when your fracing, you're fracing inside a pipe that's cemented in, that's inside a pipe that's cemented in, that's inside a pipe that's cemented in, right?
A I'm not a petroleum engineer.
Q Okay. Well, you heard Dr. Bourgoyne say that, and you just -- we're not taking his word, I guess.
All right. Let's just see if we can kind of agree on maybe a couple of other things, then I'll wrap it up and let everyone who wants to talk, talk.
We can agree, can't we, I believe you said that the deepest water you saw was at 2,300', correct?
A A ten-mile radius that -- for the search that we did, was -- that was the deepest that showed up.
Q Okay. That's more than 1.8 miles above the point

at which any fracing will occur, right?
A I haven't done the calculations, so I assume that you're correct.
Q So, in other words, there's 1.8 miles of rock formation and other things in between where the fracing will occur and where you see the water, correct?
A If that calculation is correct.
Q Okay. Thank you.
MR. HENRY:
Any redirect?
MS. WICK:
Yes, just one question.
REDIRECT EXAMINATION OF MARK QUARLES
BY MS. WICK:
Q All of these representations that were made about Helis's project, have you seen any of them in a legally enforceable document?
A I have not.
STATEMENT BY MARIANNE CUFONE
MS. CUFONE:
Good evening, everybody. My name is Marianne Cufone. I'm an environmental attorney representing the Concerned Citizens of St. Tammany.
I want to take this opportunity to express thanks

to everyone here tonight, to those who came and had to leave and especially to those who have stayed, in the spirit of sharing their thoughts and concerns regarding this very important matter in St. Tammany and well beyond.
Normally, these hearings are routine, quick, easy, and in Baton Rouge, but tonight this hearing was here in St. Tammany Parish, about a mile from the site where drilling is proposed, in the very community that could be permanently and significantly altered by the proposed drilling project. We asked for this hearing to be here tonight so the people of St. Tammany could hear exactly what Helis plans for the site and how, in their opinion, this is not a concern for the community. Clearly, this community is concerned, and, therefore, the DNR should be, as well.
DNR's Department of Conservation is tasked with conserving and regulating oil, gas, and lignite resources of the state. This responsibility, per State law, is to regulate exploration and production, control and allocate energy supplies and distribution, and protect public safety and the environment. No one charge is higher than the others. This means that the DNR is equally responsible to conserve, regulate, and protect. Many people of St. Tammany Parish came here

today to highlight that they expect you to protect them by doing the job that our state has given you. Part of that protection is having a meaningful review of a permit application.

We are very appreciative that -- was here in St. Tammany, but we do significantly question whether this could be a fair and full hearing on the merits of the project. The general attitude about this hearing was reflected in the way it was presented. Helis Oil, the DNR, and parish officials invited us to attend the hearing we asked for together. The set up wasn't given much thought. We had to ask for clarification on how people would be called to speak, how the room would be set up. We had to bring our own speaker system.

AUDIENCE MEMBER:

(Inaudible.)

MS. CUFONE:

Abita Springs brought what they had, and I brought my own personal system to attempt to provide public access to what we would say today in this hearing.

We are concerned about the detail of review for this permit, and we specifically hereby request that the five issues Louisiana agencies must address under the Save Ourselves case holding be reviewed and discussed by DNR well prior to making a decision on

this permit, again, specifically, one, have potential and real adverse environmental effects of the proposed project been avoided to the maximum extent possible; two, does a cost benefit analysis of environmental impact costs versus social and economic benefit of the project show the latter outweighs the former; three, are there alternate projects which would offer more environmental protection; four, are there alternate sites that would offer more environmental protection; five, are there mitigating measures that could offer more environmental protection? These are all significant matters that must be considered.

Helis's team says that the company has drilled so many wells already, a hundred in Louisiana, and even into the aquifer. So what? This well is here in St. Tammany. This well is here in St. Tammany. It is unique and must be reviewed and discussed as unique because it is the first well in St. Tammany where they plan to use hydraulic fracturing.

The site is about a mile from this high school. Helis discounts this because the site isn't less than half a mile. Again, I say, so what? This is a high school filled with students and teachers and staff of this parish very nearby a drilling site. Why don't all these people matter?

Helis's team says that opponents, by the way, that's us, don't want any drilling and want this project stopped. Then they go on to say that they will not stop. This is telling about what kind of neighbors Helis will be and how they regard the concerns of this community. This is all problematic.

In sum, Abita Springs and Concerned Citizens of St. Tammany are greatly concerned by this drilling proposal. The evidence submitted tonight by Helis's team was not what I, as an attorney, consider evidence. It was more as an attempt at a persuasive presentation. I hope you weren't persuaded. The colorful maps, pictures, charts, and promises are only just those things and nothing more, prepared by a company to show what they want to show and not in any way legally enforceable documents.

The real crux of the matter that must be discussed and decided is whether this proposal is contrary to the public interest. We submit that it is for many reasons, for being in violation of existing zoning, for raising risks to the public health and contamination to water, air, and our environment. This is not a matter to take lightly. We ask that DNR do as they are charged and protect the people and the environment.

We appreciate your thoughtful consideration.

MR. HENRY:

All right, everyone, if we could settle down, the moment everybody has been waiting for.

We will now close the evidentiary presentation portion of the hearing and begin receiving public comments at this time.

When I call your name, please, come up to the front to the podium here and speak into the microphone. Please state your name and who you represent if it is someone other than yourself.

As you'll note, over here to the side, we have a projector with the names in the order that they were received. As this slip of paper explained, we're going to take St. Tammany residents first, but we will start with Mayor Greg Lemons.

STATEMENT BY MAYOR GREG LEMONS

MAYOR LEMONS:

Good afternoon. Thank you very much for having this hearing, and I appreciate all the expert witnesses, all the lawyers, and St. Tammany Parish School Board allowing to have this hearing here. Thank you very much. I appreciate it.

My name is Greg Lemons, and I'm the mayor of

Abita Springs. I'm not a lawyer. I'm not an expert. I'm just a small town mayor that has the charge for the health and environment of the people that are in Abita Springs.

This well is just one of the proposed wells that is going to be happening. The rest of them are 60,000 acres. Some of them are on my doorstep and in my town itself.

I'm concerned long term about our zoning laws. There is a set of zoning laws in St. Tammany Parish constituted by the State amendment that allows control of land. These zoning laws are not being considered in this particular case. There could be an oil well on our step door, and it does not allow that during our zoning laws. So I would ask you to consider the declining of this permit based on this zoning law, as well as any future permits that are out there, that is one of the big concerns.

My other concern is the environment. You know, Abita Springs has got in its name "springs." I'm really concerned by the sole-source aquifer. I had a lot of good testimony about how safe it is. I had some testimony about how safe it can't be. One well is one point of failure. If you have 200 wells, that is 200 possible points of failure. They are human

nature. They are done by humans. There's issues. There's problems that can be. If we destroy our sole-source aquifer, that is a major problem to us. We have no other means of drinking water. We have no ways of treating our water.

We have artesian water that comes out of the ground that is pure and fresh. We test that water every three years through DHH for testing for some of the chemicals that are out there, but it is my job to make sure that we have clean, fresh water. Anything that has to do with the jeopardy of that is a big concern to me.

I also have some other concerns that has to do with traffic, air pollution, groundwater pollution, surface water pollution. I'm concerned about that from the aspect that we've been living in the shadow of Bogalusa, a very large paper mill just 30 miles north of here and we get pollution on a regular basis. Most people says that is not a problem, but who knows long-term health-wise what is a problem.

This has little or no economic benefit to the Town of Abita Springs. We have analyzed the situation, and we see no revenue flowing back to the Town of Abita Springs, and that is a detriment. The detriment being -- has been told to me by many real

estate professionals of reduced property values. We live off of property values, that is how we get our revenue. Anything that jeopardizes that, jeopardizes our very existence. So I'd ask you guys that you consider to not issues these permits, not only for this one well, but for all the multiple wells that can be done on the 60,000 acres.

There were some questions about how far Abita Springs is. Well, I Googled it, and it is 4.9 miles from this well site to our town well, as the crow flies or as the pollution flows. So there is a lot of end -- problems that are out there, and I would certainly ask you guys to, please, consider not granting this permit.

Thank you very much.

MR. HENRY:

Ian Somerhalder.

And if you guys -- everyone else can look to the screen and kind of be ready to come up.

STATEMENT BY IAN SOMERHALDER

MR. SOMERHALDER:

Thank you.

My name is Ian Somerhalder. I'm literally just representing this community.

Ladies and gentlemen of the Department of Natural

Resources, Helis Oil and Gas, citizens of Abita Springs, citizens of St. Tammany Parish, Louisiana natives, and impassioned world listeners, my name is Ian Somerhalder and I'm today here, not as an actor, but as a native Louisiana, a Louisianan and, importantly, a native of St. Tammany Parish. I'm a being whose blood is rich with 35 years, beautiful years, entangled into the Louisiana bayou and Gulf coast wetlands. I know this doesn't make me an expert. When I was a little boy, my big brother and I, we took our boat every morning to go check our crab traps at the mouth of Bayou Lacombe and Lake Ponchartrain, so my roots of my truest self are woven into the organic fabric that is Louisiana's raw, majestic, and dynamic ecosystem, and, today, I am here to stand with you and many others to protect this ecosystem, our community, and, ultimately, ourselves. I want to get everybody in there. I love you guys.

Dedicated citizens of St. Tammany Parish are committed to propelling progressive, innovative, and thoughtful change here. However, one change I do not want to see, and I'm sure many, many people here do not want to see, is hydraulic fracturing wells across St. Tammany Parish. While I humbly recognize that me being here may increase the visibility of this issue,

I say that is a good thing because it needs visibility. This is a major issue, a major concern, of myself and, clearly, many others, and it merits widespread attention. And, today, in this room, we will not only bring through the parish, but statewide, nationwide, and global attention to this issue, the issue of an oil and gas company wanting to impose their well in an ecosystem that is ultimately too fragile and ensure that the government protects its citizens and the environment.

As we know, the process of fracing often includes many chemicals, most of which are undisclosed to the public. I understand you say that you are going to do that. This to me, however, historically is highly problematic. Additionally, the public is at a major disadvantage in respect to fracing. It just is. But I'm an actor and I spend much of my time using language in a way to elicit a certain feeling, emotions, or make a specific point, and the very language used surrounding this fracing project implies that the government, oil companies, and the parish are all in it together, rather than our public officials being concerned and protective of us, the people of this parish, and its environment. This is extremely concerning, guys.

We need to defend the biological integrity of this parish and our aquifer from the shortsighted and potentially disastrous effects of hydraulic fracturing.

While I applaud the citizen action toward halting this ecological damage, I am committing to do more with my public platform. I intend to use this support to encourage visible public reinforcement in these efforts and create positive change. Now, listen, while my heart clearly demonstrates the passion I have for protecting these delicate ecosystems in this parish, my investment reaches very far beyond the emotional and expands into the economical by acquiring lots of family property, opening businesses within the community, and launching a change-making philanthropic initiatives within these wetlands. My money is where my mouth is.

I believe wholeheartedly in the special, undeniably unique quality of St. Tammany Parish. I think we all do. This is why -- this is why we've poured limitless energy, time, and resources into the community that we so deeply believe in, and we've invested holistically into this parish, and we deserve the right to clean air, unsullied water, and the privilege of watching the wilderness amongst us

flourish.

So, listen, we've all seen this -- thank you. We've all seen this destruction before. This home of ours, the nurturing, wild, maternal force that propels every life in every direction was massively and dramatically, and likely permanently damaged in 2010. Now, I have a very distinct and explicit memory of the moment I surveyed the vast manmade devastation of the 2010 oil spill. The bayous that shape my very nook and cranny of my being and many of these people were massacred in front of my own eyes, and I remember feeling oiled pelican feathers. I remember watching dolphins suck in oil into their blow holes and most likely dying. These are things you don't ever want to see again. Every cell in my body was overcome with a sense of true vulnerability, and this vulnerability is what ignited me to launch the Ian Somerhalder Foundation.

So, please, with every single word of this letter, hear the thousands, upon thousands, hundreds of thousands, if not millions, of international voices reverberating this message with every ounce of their rabid, spirited, committed beings. And after witnessing such inessential and avoidable tragedy, we vowed to never be that vulnerable again, and we will

continue to vow that every being from our youth to the creatures that we share this area and this planet with will never have to watch the suffering and destruction that scalded our lives back in 2010.

So I will -- I will finish this. I just want you guys to know that we are empowered. We stand together, and hydraulic fracturing is not what this area needs.

MR. HENRY:

Next up, we're going to have Rick Franzo.

STATEMENT BY RICK FRANZO

MR. FRANZO:

Sorry. It's a tough act to follow. That's the before, and this is the after.

Thank you, Ian. Thank you very much.

My name is Rick Franzo. I've been a resident of St. Tammany Parish for 35 years. I'm president of Concerned Citizens of St. Tammany, and part owner of an international marine chemical company. We operate in 750 ports around the world, with our U.S. headquarters stationed in St. Tammany Parish. As president of CCST and a business owner in the maritime chemical industry, I am committed to protecting our community from the potential long-term negative impacts associated with hydraulic fracturing.

My sincere thanks to the DNR for allowing this public hearing to take place. I also would like to thank Superintendent Trey Folse, principal, Dr. Dean Wagner for agreeing to hold this very important hearing at this beautiful high school, which is just down the road from where Helis Oil and Gas has applied for this drilling permit.

I want to offer some background on Concerned Citizens of St. Tammany, so you will understand why I and many others are here tonight for this purpose of this hearing. The first Concerned Citizens organization was founded in January of 2010, when the parish government tried to push through a waste transfer station at the front entrance of Lacombe. The citizens of Lacombe mobilized quickly, and within 30 days, Concerned Citizens of Lacombe had over 250 paid members. CCL ultimately won this battle in court, 18 months later, at a cost of over $400,000. This long and costly battle was the catalyst in the evolution of Concerned Citizens of St. Tammany as we realized the only way we were going to effectively motivate positive change is to grow our organization parish wide. Today, CCST boasts over 2,500 members with a reaching of up to 30,000 to 40,000 citizens in St. Tammany Parish. Additionally, we have followers

throughout the U.S.A., Canada, and, more recently, Europe, and Asia.

CCST is a good government organization, and we will be the best cheerleader when our government is working openly and honest for our taxpayers. Conversely, we will be serious opponents when we witness what we consider bad government and will actively seek accountability of any and all in our government.

Approximately five months ago, Helis Oil and Gas announced their plans to drill in St. Tammany Parish by a method known as hydraulic fracturing. Our parish leadership started to raise the white flag stating there is nothing our local government can do to stop this from happening in our community. This is did not sit well with many of the citizens of St. Tammany Parish, and a huge wave of citizen engagement started to emerge and as you see from the people that attended tonight.

I am here tonight on behalf of our organization to express our extreme concern regarding the development of the hydrofracturing operation, or fracing as it is called, in our parish, and to let the DNR know our organization stands firmly against it for many reasons. CCST is not an environmental

organization. CCST's primary mission is to ensure transparent, effective, responsible government. At minimum, this means that CCST believes DNR should be very cautious and be first and foremost protecting the people and our natural resources as it considers its fracing operation in St. Tammany Parish.

CCST is also very concerned about the ecological risks associated with fracing, in particular, habitat loss, terrain changes, soil and surface water pollution.

CCST is further concerned about the public safety health issues related to hydraulic fracturing.

Additionally, we are concerned about the impacts to our business and our property values. What happens when fracing comes to St. Tammany and people no longer want to live here but can't sell their homes for what they once were worth?

In summary, Concerned Citizens of St. Tammany is very concerned about the resulting effect of fracing in our communities, and we do not want to look like some of these places on this map.

On a final closing, on a personal note, we can sit here for months and debate the science or the technology of hydraulic fracturing, but, instead, let's put that all aside. The aftermath and the

brutalization of hydraulic fracturing, it is clearly evident, and this should send chills down everyone's spine. When I look around this room tonight, I see many high school students that are engaged in this process this evening and acutely interested in the potential outcome. We are all in this together. This is our home. This is our future and their future. Let us send a strong message to State government and Helis Oil that we, as citizens, will defend our community, protect the quality of life for these high school students, our children, and our grandchildren. Let them witness history where community and government come together to say "no" to big oil. This is our home, not yours.

In conclusion, on behalf of CCST, I respectfully ask the DNR to deny all Helis Oil and Gas permit applications.

MR. HENRY:

Mr. Franzo, I'm going to ask that you conclude. You can continue --

MR. FRANZO:

I would like now the CCST members regarding these subjects would come and present their opinions.

Thank you very much, sir.

MR. HENRY:

Okay.

STATEMENT BY DONALD LEE

MR. LEE:

Tough acts to follow I'm for sure.

My name is Donald Lee, and I'm a resident of St. Tammany Parish. I'm an attorney, and I volunteer my time as a member of Concerned Citizens of St. Tammany's legal committee. My thanks to the Department of Natural Resources and to all the participants at the hearing this evening.

Horizontal hydraulic shale fracturing is a heavy, brutal, industrial process fraught with environmental and human health risks which Helis now wants to unleash into the very heart of our community. I urge the DNR to reject the Helis Oil and Gas Company's application for a drilling permit.

First, I'll address a few points included in the Liskow and Lewis October 23, 2014, memorandum addressed to the DNR, and specifically to Commissioner James Welsh, and then I would like to conclude by explaining why this hearing is so vitally important to citizens. After all, I'm here this evening as an ordinary American citizen, as a resident of the parish whose family may have to live forever with all the staggering environmental and social consequences of

fracing. I don't want to spend all the precious few minutes available to me dancing like an angel on the head of a legal pin, but, clearly, whether citizen's wishes to allow horizontal hydraulic shale fracturing into their community is really a matter of public policy which involves much larger and more vital human considerations than the legal information included in the Liskow memorandum.

Now, a few comments about the memorandum. Helis observes there is no residential or commercial structures within a 500' radius of the proposed drill site as required by Louisiana Revised Statute 30:28(D), and, therefore, Helis's drilling application does not require a public hearing.

Thank you for holding this public hearing.

In the context of the brutal industrial nature of fracing and in light of the thousands of wells Helis and likely other oil and gas companies behind them intends to frac all across the western section of St. Tammany Parish, this 500' legal provision is quite literally preposterous. Of course, you know, Helis has made the claim over and over again the drill site is isolated, but unless you are relying on the absurd limitation of 500', common sense should tell you the site is absolutely not isolated. It's located in an

area of the parish that is zoned residential and is only 1.2 miles from where we sit this evening.

Helis claims that the law does not require the DNR to consider local zoning ordinances in connection with the issuance of a permit. Of course, the memo then went on for about three pages discussing zoning ordinances. But, nevertheless, Helis relies on Revised Statute 30:28(F), for the proposition that the St. Tammany Parish zoning requirements are preempted from interfering with regulation of the oil and gas industry, and Helis offers the case of Energy Management Corporation verses the City of Shreveport to support its preemption position. The Shreveport case does not support Helis's claim that Louisiana Revised Statute 30:28(F) preempts the zoning authority granted to the St. Tammany government under the Louisiana State Constitution and the St. Tammany Parish Home Rule Charter. The ordinance in the Shreveport case was authorized under the power of a police jury. The Court never decided whether State law would preempt a parish zoning requirement passed under the authority of a Home Rule Charter, and a Home Rule Charter is generally accepted as a more legally powerful fountain of authority than a police jury.

Well, I see I have one minute, so I'm going to

skip ahead here.

As a matter of public policy, the St. Tammany Parish government has had a difficult time coming to grips with the vastly complex legal, environmental, social, and cultural issues relative to allow fracing in the parish. Though bright and well-intended, St. Tammany Parish officials are on the horns of a dilemma. Under the clear auspices of the Louisiana State Constitution and the St. Tammany Parish Home Rule Charter, officials are authorized to ban fracing to protect the health and welfare of parish residents. However, if they do pass a ban on fracing, officials fear the parish will be exposed to the expense of a potential Helis lawsuit. Officials would also risk their personal political fortunes to the immense financial and political power of the energy industry and its business lobby would wield against them. On the other hand, the parish officials can fall under political sword and pursue a path of accommodation and capitulation where they effectively eviscerate residents rights under the Louisiana State Constitution and St. Tammany Parish's Home Rule Charter, offer earnest, but ultimately worthless public assurances the parish will work with Helis to implement safety measures adequate to protect the environment and

citizen's health. In the end, my guess is, parish officials will not have the good sense and the political courage to ban -- or to place a ban on fracing in St. Tammany Parish, and it will be left up to ordinary citizens to act through the courts and ballot signs (phonetic) to protect the environment, health, and wellbeing.

MR. HENRY:

Mr. Lee, I'm going to ask that you conclude.

MR. LEE:

All right.

MR. HENRY:

Melissa Pearson.

STATEMENT BY MELISSA PEARSON

MS. PEARSON:

My speech was prepared for a packed gym, four-and-a-half hours ago, just to let you know.

So my name is Melissa Pearson, and I come before you tonight to express my concerns regarding the proposed drilling of an exploratory well right across the street from this school. It's right across the street. I've seen the lease options and the land map for an additional 50,000 acres that this oil company has acquired across St. Tammany Parish, and I am sure that you realize that their intent is not just this

one single exploratory well. I realize that Helis has good intentions, and they are only pursuing an opportunity, which is their right, but as a homeowner and a business owner here in St. Tammany Parish, I'm asking you to deny their request for this drilling permit for the following reasons.

Reason one, the home that I own is only a few miles away from here. This is my neighborhood. This is my neck of the woods, okay. I -- when I left New Orleans and moved to Mandeville, I chose it very carefully and I chose Mandeville because I appreciate the residential feel of this community. I like the greenery. I like the fresh air. I like that there is no traffic on 1088 when I take this road every morning to work. I appreciate that about this life. So I invested in St. Tammany Parish. I bought a home here, and, DNR, please, know that I never would have purchased that home had I known that this sort of industry could happen just a few years later. I never would have done that. I invested in this community.

Reason two, as the owner of a wellness center here in St. Tammany Parish, I have serious concerns about having such hazardous waste in a close proximity to humans and life, wildlife, and creatures. While I realize that energy independence is an important goal

for America, I believe that harvesting oil and gas in such a close proximity to a residential community will have harmful effects on the living creatures in this area.

And speaking of wild animals, this brings me to reason three. As a mother whose children live in this high school's school district, I am worried about the increased traffic, the noise pollution, and the roughnecks to be in such close proximity to this school.

As the DNR, you guys are charged with protecting our state's natural resources. So, please, do not overlook the most powerful resource that we have, which is our children. These teens hold our future in their hands, and it is up to us to make sure to keep -- that they are safe and to assist them in achieving their full potential, and having this sort of volatile industry so close to their learning environment is not good for all involved. It's just not.

Thank you.

In closing, I know that it is Helis's right to request a drilling permit and I also know that you, the DNR, hold the power to grant or deny that request. However, the last I checked, this is America which is a democracy by the people, for the people, and the

people here don't want it. I don't want it. We don't want it. We don't want this.

Please, please, do not rubber stamp this on through. It would be both unconstitutional and inhumane, and I think inhumane because as humans, we all have the right to clean air and pure water. We all do, and we have clean air and pure water here right now, do not take that away from us.

Thank you.

STATEMENT BY GORDON CAIN

MR. CAIN:

Good evening. My name is Gordon Cain. I've lived in St. Tammany Parish for over 30 years. I worked for Chevron for 34 years, with the last 20 years as land manager in the New Orleans and Covington offices. I retired in 2010 and formed a small company with a geologist, Tom Hines.

I first had dealings with Helis in March 1977. I had numerous dealings with them in subsequent years. My former employer, Chevron, was extremely reluctant to allow other companies to conduct operations on its properties because of its policy to maintain the highest standards for health, safety, and the environment. Because of the high esteem with which it held Helis as an operator, it agreed to allow Helis to

operate wells located on Chevron properties.

Additionally, on behalf of Chevron, I was directly involved in the Stone Island Restoration Project conducted by Helis. The Louisiana DEQ on its website commends Helis for this first ever private restoration of a barrier island, and states that Helis went beyond all legal requirements in completing this project. Helis is an extremely capable operator with a talented workforce. In my experience, their operations are conducted with a view to minimizing any impact on the environment.

I strongly urge that the drilling permit be issued promptly.

AUDIENCE MEMBER:

(Inaudible.)

MR. CAIN:

My new company represented the landowners in the negotiations wherein Helis obtained and oil and gas lease in St. Tammany Parish.

AUDIENCE MEMBER:

(Inaudible.)

MR. CAIN:

The only current use of the acreage --

MR. HENRY:

Excuse me, sir. Excuse me.

Again, I'm going to ask that you guys afford this man the due respect that you are going to hopefully get when you come up to speak. Any outbursts going forward, we're going to have the deputies escort you out.

Thank you.

MR. CAIN:

The only current use of the acreage that was leased to Helis is as a pine tree farm and is in rural St. Tammany Parish, over two miles from any subdivision. The landowners were concerned with the nature and extent of the use of the surface for oil and gas activities. They wanted to minimize any impact to the surfaces as a result of Helis's operations in order to ensure future multiple uses.

There were very lengthy detailed negotiations regarding Helis's rights regarding surface use in the oil and gas lease. A couple of examples of the limits on Helis's rights are, drilling operations are only allowed on well pads described in the lease. In the event of a discovery, Helis is required to work with the landowners in order to minimize the impact of their operations on the surface, and the oil and gas lease contains other very strict requirements intended to ensure that the landowner's property is best

protected and that all operations are conducted at the highest standard to effectively manage health, safety, and environmental issues, minimize risks, and protect the environment.

There are a number of benefits for St. Tammany Parish. Former LSU economics professor, Dr. Loren Scott, recently updated his analysis of the economic impact of the oil industry on Louisiana. Several points he made are increased numbers of jobs follows successful oil and gas activity. Dr. Scott noted that for every job created by oil and gas exploration and production, 3.6 jobs are created in other sectors. These are high-paying jobs that generate taxes for local governments. The energy industry generates a number of direct taxes for local government, including ad valorem taxes, sales and use taxes, property taxes, and the parish's share of severance taxes.

Looking at ad valorem taxes alone, Dr. Scott note that in 2013, the energy industry paid $409.7 million in ad valorem taxes to local governments in Louisiana. I note that St. Tammany Parish is one of three parishes with zero dollars, that will change in a big way if the Helis well is a discovery. In 22 parishes, over $5 million per parish was generated in ad valorem taxes by the energy industry.

It is interesting to look at parish property tax increases as a result of the Haynesville play in northwest Louisiana. Dr. Scott estimates that, in 2013, DeSoto Parish is getting over $49 million in property taxes per year as a result of the Haynesville Shale drilling, with Caddo Parish getting over $24 million, and Bossier Parish getting over $15 million. In conclusion, looking at the multiple sources of potential direct tax revenue, as well as the indirect benefits as a result of job creation, I conclude that successful exploration by Helis in rural St. Tammany Parish will generate hundreds of millions of dollars in revenue for St. Tammany Parish over the next 20 to 30 years.

Again, I strongly support your approving the drilling permit.

Thank you for the opportunity to give my views, and can I submit this for the record?

MR. HENRY:

You may.

MR. CAIN:

This is Dr. Scott's report.

MR. HENRY:

Tom Hines.

STATEMENT BY TOM HINES

MR. HINES:

Good evening. My name is Tom Hines, and I support the issuance of the Helis-St. Tammany drilling permit.

I have been a resident of St. Tammany Parish for 32 years. I own property and the mineral rights under that property as do most people in this room. I've worked for over 40 years in Louisiana as a professional petroleum geologist, and I am very familiar with the subsurface geology in St. Tammany Parish. My knowledge of the geology in St. Tammany Parish resulted in a number of local landowners contracting me to evaluate the oil and gas potential underlying their property. This evaluation led to the development of an oil prospect centered in Section 34 of Township 7-South, Range 12-East, that is the Helis location.

In 1980, an exploratory well was drilled two miles southeast of the proposed Helis well site. We've heard about that today. The evaluation of this well indicated the high probability of an oil zone in the Tuscaloosa Marine Shale at approximately 13,000' below the surface. This well, the Keller-Brown Heirs Well, was not produced due to the fact that, in 1980, the technology to economically extract oil from deep,

low-porosity, permeability zones did not exist.

Fast forward to today with the advent of horizontal drilling capability, paired with the older technology of hydraulic fracturing has resulted in an oil and gas production renaissance in the U.S. that we now all enjoy. Now oil and gas zones that were discovered years ago are economic to produce.

The TMS prospect in St. Tammany is very similar to TMS discoveries currently being drilled and producing oil in other Florida parishes and southwest Mississippi. The Helis team chose the location for their St. Tammany Parish well very carefully to optimize the geologic parameters of the targeted zone and minimize the impacts to the citizens of St. Tammany. This location will very likely result in a commercial TMS oil discovery, in my opinion.

The Helis Oil and Gas team understands the potential of the St. Tammany TMS prospect and their duty to conduct safe operations. They are willing to spend millions of dollars to bring online this new source of oil which will benefit all the citizens in St. Tammany Parish through taxes. It will benefit the mineral rights owners, the State of Louisiana, and the nation.

Finally, some people opposed to the drilling

permit have put forth the narrative that St. Tammany is an oasis separated from the oil and gas industry, and they want to keep it that way. The reality is, St. Tammany Parish is vital link in the daily oil and gas operations for the nation. There are numerous oil and natural gas interstate pipelines that cross our parish. These pipelines are located directly over the Southern Hills aquifer and have caused no issues with water quality or the quality of life in the parish after being in service for decades. The only issue with these -- these facilities, in my opinion, they don't generate any employment or tax base for the parish.

By the way, one of these new pipelines -- somebody mentioned the school -- is right in front of the school, installed three years ago, and is delivering white oil from West Virginia and Pennsylvania, down through the country, right past Mandeville, under the lake, and to refineries along the river.

The Helis operations would make for very beneficial synergies between the existing oil and gas transportation infrastructure that already exists here and their oil production.

Thank you very much.

MR. HENRY:

Philip Sipos.

STATEMENT BY PHILIP SIPOS

MR. SIPOS:

My name is Phillip Sipos. I live in Abita Springs, and I just have a few points.

Before any decisions are made, I would like for some investigation to see why other communities, states, and countries throughout the world have banned fracing. What are the reasons for banning it?

Also look into other areas where fracing had been done to see if there has been an increase in any earthquake activity and if sinkholes have developed from fracing.

And, finally, allow this parish to put into effect regulations that would prohibit people from digging a pond and then dipping into the aquifer to pump up aquifer water to fill the pond, then to sell our clean water to use in fracing.

Thank you.

MR. HENRY:

Cindy Reiher.

STATEMENT BY CINDY REIHER

MS. REIHER:

Hi. Whoa, it's loud now, huh?

I'm Cindy Reiher, and I live in St. Tammany Parish in Crestwood Estates, and there's a lot of people that lives in Crestwood Estates. It's 384 houses, which makes it probably the largest subdivision here. There is at least 1,000 people. We are extremely close to Abita Springs, so you know kind of where we're located.

Basically, you know, I've listened to a lot of stuff, the EPA and everything, and, recently, this little article came to me and it's probably something we haven't talked about. Water is my biggest concern, too. The government considers it probably one of our most precious resources. After all, we can't live without it. It takes two liters a day to keep somebody alive.

This little deal here is called "Fracking Flub." It is an article, and it says, "Methane dangers may be three times the estimate." This is kind of directed at the EPA. Results of a methane analysis of 20 years worth of scientific studies published in the *Science* magazine conclude that the U.S. Environmental Protection Agency, that is the EPA, has underestimated the natural gas industry's climate impact by 25 to 75 percent. I'm not including methane leakage from fracing, gas drilling operations, and pipelines.

Methane, the main components, of course, of natural gas is a potent greenhouse gas. The National Oceanic and Atmospheric Administration researcher Gabrielle Petron voices concern with the discrepancies because, quote, emissions estimates or inventories are the primary tool that policy makers and regulators use to evaluate air quality and climate impact, end quote.

For a paper published in the *Journal of Geophysical Research: Atmospheres*, researches flew aircraft over a heavily fraced region in northern Colorado and concluded that emissions from drilling operations were nearly three times higher than an earlier emission estimate published by the EPA. So the EPA isn't telling us the truth? Shame on you.

Also, here are 242,333 people at the last census in St. Tammany Parish, and that's not the cities of Covington or Mandeville or Slidell. It's everything in between where all the subdivisions are. There is a hell of lot of money in St. Tammany Parish. I can't tell you how many of million-dollar subdivisions there are, not to mention the estates.

I mean, really and truly, we have the most precious thing in the world. We have cypress swamps and bayous here that are the oldest in the United States, some of the oldest cypress stands in the

world. There is so much at stake here. We've got the National Wildlife Refuge, the Big Branch National Wildlife Refuge, right down the street in Lacombe. I mean, the Honey Island Swamp. There is so much in St. Tammany Parish at stake.

St. Tammany Parish is actually is the jewel of Louisiana and probably the only place that absolutely is still in its pure and natural state, in spite of the tremendous amount of development and people moving over here.

If it is just for one minute you wouldn't think of money so doggone much, and think of what is really valuable in this world, you'd realize that you should leave St. Tammany Parish alone. We quite happy with what we have here, and we truly have everything we need.

Thank you very much, and thank you for coming together with us.

AUDIENCE MEMBER:

Good job.

STATEMENT BY CARL HELWIG

MR. HELWIG:

My name is Carl Helwig. I'm a retired VP of a large diving company whose work mostly was in the oilfield.

During that time, those 40 years, I've seen many, many, many leaking oil wells. Most of them were offshore where there are no drinking water tables to pass through and where leaks were generally diluted by our oceans. Even so, crude oil products and up on our beaches and islands. We have, in most cases, accepted this as a risk worth taking.

Nobody has been more pleased than I by the fact that we are not only producing more oil and gas, but are actually exporting refined gasoline, diesel fuel, and natural gas, reducing our dependence on crude oil imports. There was an article in the *Times Picayune* recently by Marty Durbin, President and CEO of America's Natural Gas Alliance, about how natural gas is a game changer for the Louisiana-U.S. economies. He is right, but let's not be blinded by this rush to get rich.

Unfortunately, the same drilling procedures are used to drill on land. In recent years, the added procedure of horizontal fracing has resulted in a large increase in leakage of both gas and drilling pollutants into our water tables and to the surface corroding (phonetic) the land.

Lately, the statement made by Schlumberger in an article in the *Oilfield Review* is right on the mark.

They published, parenthesis, in fact, leaking wellbores have been a persistent and chronic problem for decades. Since the earliest gas wells, uncontrolled migration of hydrocarbons to the surface has challenged the oil and gas industry.

Thousands of new wells have been drilled on land in the past few years and have caused a large increase in severe pollution, especially wells that are fraced. There are many studies that have recently been published showing the extent of this pollution. Once you have polluted a water table, you have created a problem that has no cure. Think about it.

Sealing an area between a drill pipe and the surrounding water table with cement, which makes great pavement and foundation for homes but can easily crack as it is basically non-elastic. One of the reasons it is used is because it is easily pumped and it's cheap.

For a list of the reported contaminated wells, go to the National Resource Defense Council's website, and, please, don't tell me it is all a crazy crusade as James Varney who recently stated in his article in the *Times Picayune* entitled "Crusade Against Fracking Utterly Crazy."

To allow fracing through our water tables, and especially in or near residential areas is downright

crazy, and it is, in my mind, criminal. Once a water supply has been polluted, chances are your property becomes near worthless.

Let's step back a bit from this irrational exuberance to quote Alan Greenspan, and see if the problem of polluting where fracing is used can be solved. The shale oil has been there for millions of years. It is not going anywhere. I might add that the majority of residents of St. Tammany are not here tonight because they trust you to do what is best for the environment and for our health. This group asked you to do justice, also.

Thank you.

STATEMENT BY EMMA VILLAMARETTE

MS. VILLAMARETTE:

Hi. My name is Emma Villamarette, and I am a student of Lakeshore High.

I do not feel that the benefits of this entire project even come close to the risks that puts every member of this school, my school, at. This is being planned to go right down the street, and so many students are completely blind to the potential outcome. This fracing will not affect your generation, but instead ours, so our voices should be heard.

It is a nonpermanent solution with long-term effects that aren't even exposed to us yet. I know that, if it goes on as it is planned, we will regret letting this being pushed past us. I'm not asking to be paid off. I'm asking for the respect as citizens that we deserve. We are the ones who will have to deal with these effects, but not the ones benefitting from them and the destruction of our ecosystem.

If we simply accept defeat, it will be an example for other big business in our future.

So I have to ask you, proud citizens of St. Tammany Parish, aren't sick of being stepped on?

MR. HENRY:

Armand Richardson, Armand Richardson.

Frank Pearson, Frank Pearson.

I'm sorry.

STATEMENT BY ARMAND RICHARDSON

MR. RICHARDSON:

Excuse me. I have a speech impediment.

When I was first diagnosed with Parkinson's disease, the doctor asked me if I had been exposed to any heavy metals because he said that they had noticed a large occurrence of Parkinson's disease among welders who inhaled cadmium and manganese from the welding rods, and I feel that if you allow this permit

to be issued that there will be many people in St. Tammany with the same affliction that I have, and no matter how hard Helis tries, there could be a mess up, just as BP.

Thank you.

MR. HENRY:

Rick Richardson.

(No response.)

Garratt Acquistapace, is that correct,

Garrett Acquistapace?

(No response.)

Paula Borne.

STATEMENT BY PAULA BORNE

MS. BORNE:

Hi, and thank you for the opportunity to speak and voice my concerns. My name is Paula Borne, and I'm a member of CCST, and I'm a business owner here in St. Tammany, and a real estate agent in St. Tammany.

Last week, I was with a client and she saw those new flood maps that were out from the National Weather Service, and she asked me if there were any housings that would be close to the interstate out of the possible flooding area. I told them I would look for them, and then her response to me was "I don't want to be near fracing." So, gentlemen, what do I tell her?

I don't know where to tell her to go. No one wants to live near an oil well.

I've been asked, what will happen with the values of the homes. You know, I personally believe, if somebody built an oil well next to my property, I'd probably damn near give it away just to get away from it. I don't want to be near an oil well, and I'm sorry.

No one wants to -- excuse me. What we do need is rooftops above I-12, that's what we need. We need homes that are built.

My concerns with the fracing are many, including the contamination of the sole aquifer, the methane gas, the wastewater contaminating our bayous and lakes, and all the chemicals that are pumped into Mother Earth. I have children here, I have grandchildren here, and I have great grandchildren here, and I would like you all to protect them from harm.

And thank you all very much.

MR. HENRY:

Barbara Dodds.

STATEMENT BY BARBARA DODDS

MS. DODDS:

My name is -- my name is Barbara Dodds. I live

here in St. Tammany, and I've lived here since 1976. I have given all of my years to the planning of this parish, so I hope you will listen to some of the things I have to say.

The first item, I would like to read into the record is Article IX of the Constitution of the State of Louisiana, under Natural Resources and Environment; Public Policy, Section 1, the natural resources of this state including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with health, safety, and welfare of the people. The legislature shall enact laws to implement this policy.

This is your direction, gentlemen. This is the Department's constitutional directive, and we hope fervently that you will protect us the way the Constitution says that you should.

I am here tonight just speaking on behalf of the League of Women Voters of St. Tammany, and I thank you for having this hearing here, and I thank the citizen's organization, and I thank Mayor Lamons for asking for this to be held here.

The League of Women Voters of St. Tammany fervently requests that no oil or gas drilling permits

be issued in St. Tammany Parish. St. Tammany Parish has been in the forefront of land use planning and zoning in Louisiana.

Directions 2025 was held over a period of four to five years before Katrina, driven by hundreds of citizens, giving thousands of hours to make a plan for the future of the parish. This plan was constructed by our citizens and designed to conserve the environment that makes our parish unique, our trees, waterways, clean air, and excellent water from the Southern Hills Aquifer. We have recently completed the comprehensive rezoning of the entire parish to further that plan. All of our efforts have been aimed at orderly growth and preserving the quality of life most have found here.

In looking at the location map and considering that our drainage is sheet flow, runoff from the proposed site and all the trucks that would be servicing will flow towards Fontainebleau State Park, Cane Bayou, Bayou Liberty, and Bayou Castine.

Fontainebleau State Park is a jewel of flora and fauna with surrounding area hosting many native and migratory bird species, including the endangered red-cockaded woodpecker, and rare floral specimens. Bayou Cane and Bayou Liberty are classified as scenic

streams. A scenic stream permit surely must be required if our request is ignored by you.

Trucks that will service the proposed project will carry chemicals and pollutants to and from the site. Trucks leak and have accidents polluting rainwater runoff. They destroy roads, as well, leading to dust and air pollution. Their exhausts foule the air. Surely our environment deserves protection from this danger.

Any proposed well will require flaring of excess gas. In the future, should this industry be allowed here, storage tanks will vent toxic fumes 24/7, and air permits should be required, but, sadly, the industry by special exemption escapes this law? We also question the statement by Helis Oil and Gas that they will truck in the millions of gallons of water they will need and truck out the wastewater they will produce in their fracing operation.

A study by Environmental -- Environment America published in 2013 states that 280 billion tons of wastewater was produced from fracing operations in 2012, across the United States.

Will this water come from our aquifer? We don't know where these ponds that they will use to get the water.

I'm almost finished.

They also say that they will truck their wastewater to a licensed exploration and production waste facility. Where will that be? In somebody else's back yard to cause havoc?

And, finally, and perhaps most importantly, St. Tammany Parish depends on a sole source of drinking water supply, the Southern Hills Aquifer, which could be impacted by any oil and gas drilling action. Were an accident to occur, our citizens would have no other source of potable water adequate to supply the population. This is a risk no one should ask us to take, and, indeed, EPA may require an environmental study. What will happen 10 or 20 years from now after this well or many wells have been drilled and the concrete starts to deteriorate that supposedly protects our aquifer?

MR. HENRY:

Ms. Dodd, Ms. Dodd.

MS. DODD:

The League stands tonight and with many other citizens, organizations, and the parish and local government, and request that you deny the drilling permit from Helis Oil and Gas.

Thank you.

MR. HENRY:

Jacob Groby, III.

STATEMENT BY JACOB GROBY, III

MR. GROBY:

Good evening, Panel.

Can you hear me okay everyone?

AUDIENCE MEMBER:

(Inaudible.)

MR. GROBY:

My name is Jacob Groby, and I live at 29354 Lyon Lane, Lacombe. I'm speaking before you this evening to solicit you to, please, decide against drilling a permit (sic) in St. Tammany Parish.

Although this issue has been in the forefront of our local news, but none has been in our headlines of the numerous and recent accidents that drill sites across the nation have had in just the past four months or so. Because that list is inherently long, I will limit my comments to two of the most recent accidents, and within themselves, are frightening in their scope.

The reason I speak on this issue is because I feel deeply that, if drilling is allowed, we will be exposing our citizens of our parish to dangers unlike any known before in the history of St. Tammany, and,

thereby, risking the health, safety, and welfare of our citizens.

I'll start with the Eisenbarth well pad disaster. I have handouts here for the panel and for the memorialized report.

On June 28, 2014, due to a broken hydraulic hose, a catastrophic explosion and fire happened at the Eisenbarth well pad site owned by Statoil in Clarington, Ohio. During the subsequent five days it took to put the fires out, an untold number of gallons of water and chemical escaped the site. This water contained 16 different known chemicals, including 3,300 gallons of BE-9, tributyl tetradecyl phosphonium chloride, known as TTPC. This chemical is one of the compounds that escaped the site, reaching a waterway, and killing 70,000 fish, marine life, and crawfish. These facts are taken directly from the report I handed out, and there is no -- not a single word added.

The reason I point out this particular chemical compound is, is because it was discovered that, once the fires were out five days later and cleanup was underway, it was revealed that there was an inability to analyze for and detect the primary component BE-9, which was TTPC, for there is no standard method to

identify that chemical.

Statoil's consultant was requested to work with a laboratory to develop a method to analyze for that compound exposed in the environment. The report quoted, if a method is developed to analyze for TTCP, it will be added to the list, as well as any methods necessary to detect constituents that make up the proprietary component of GasPerm 1000. Plainly stated, the industry is allowed to use chemicals that cannot be detected by a scientific means to verify if they are in our air, our water, or our soil should an accident happen at a well drilling site in St. Tammany Parish, as it did in Clarington, Ohio.

Additionally, there was an inventory of shaped charges, primer cord, and detonators on the site, as well as three sources of Cesium-137 radiological sources, with unknown disposition as a result of the fire. Cesium-137 has a 35-year half-life. They use it see how deep in the X-raying of the wells.

Earlier, I heard one of the panelists speaking about the approximation of using five million gallons of water, and they touted that they were only using 0.5 percent of chemicals, 0.5 percent of five million gallons is 250,000 gallons of chemicals, no matter which way you slice it.

As you may understand, our best two and largest Fire Districts No. 1 and 4, are taking a public stance against drilling citing, amongst other things, as being ill-equipped nor trained to handle this type of industrial accident. That is not a slight toward them, but only serves to make clear that St. Tammany Parish has never had the need to fight these type of chemical spills or fire, nor having to deal with radiological agents such as Cesium-137.

Another accident happened which spilled 20,000 gallons of hydrochloric acid in Hennessey, Oklahoma. If you put that in context, that amount would fill 500 bathtubs or more than 300,000 water glasses.

One of the chilling statements made by the Oklahoma Commissioner, which is similar to DNR, was, quote, we are very fortunate that we don't have any water wells in the area. Louisiana Department of Natural Resources could never make that claim if there was an accident in St. Tammany Parish.

In closing, one indisputable fact stands above all others that, if this site or others are not permitted, there is absolutely, positively no possibility that accidents such as these ever happening in St. Tammany Parish. I implore this Commission to, please, deny this permit.

Thank you.

MR. HENRY:

Lawrence Haik, Lawrence Haik.

(No response.)

MS. BROWN:

I saw Lawrence left. He gone. I'm Belinda Parker-Brown.

MR. HENRY:

Belinda Brown.

STATEMENT BY BELINDA PARKER-BROWN

MS. BROWN:

Good evening. My name is Belinda Parker-Brown, and I'm a member of CCST. I'm also the president of Louisiana United International A Force for Justice.

I have been well educated here tonight, and my heart is heavy. As a Native American, I'm very saddened that we have to have this meeting here tonight. I want everybody to know my family is of the Chahta (phonetic) tribe, and we live off the land. We cannot survive. We will die if we allow our water to be contaminated. It's time for us to do some serious soul searching about how important life really is to people that survive off the land.

I would like for the DNR to really consider that everyone that have came before this mic tonight and

spoke on behalf of no fracing for St. Tammany Parish was because we care. We care about the people that live here. We love this parish, and we need to seriously think about the future of the people that have chose to live here.

It's very hard for me to talk because I know that my family as Native Americans have suffered many, many tragedies, but we are survivors, and we don't need to face this tragedy. Because we know for a fact that there are hidden dangers. There is a hidden danger and a very serious risk for people that live off the land.

Thank you.

MR. HENRY:

Larry Rase.

STATEMENT BY LARRY RASE

MR. RASE:

I'm Larry Rase. I'm the executive director of the Northshore Business Council, and I would like to read a statement in support of the oil and gas industry.

The Northshore Business Council, acting through its executive committee, adopts the following resolution as a statement of principle of the organization.

The citizens of our Northshore community are engaged in important public dialogue regarding Helis Oil and Gas's intention to establish an exploratory well in St. Tammany Parish. The study and consideration of relevant issues by the leadership of the Northshore Business Council is appropriate, given the community impact of these activities.

As CEOs representing 60 businesses and thousands of employees in our Northshore region, we understand and appreciate the value of our community's quality of life has on our region. In fact, there is no greater valuable asset in economic development efforts than our great schools, safe streets, and the beautiful environment our region enjoys.

We also recognize that a significant segment of our citizens believe that encouraging oil and gas exploration is not only good for our local economy, but also our state, and ultimately our nation. We stand firm in the belief that with a strong State and local government oversight, we can have both.

Thousands of jobs in St. Tammany stem from the oil and gas industry, and hundreds of millions of dollars flow through our State budgets. The Northshore Business Council strongly encourages our political and regulatory leadership to keep these

economic realities in mind, and to remember that we are a pro-oil and gas parish in the heart of a pro-oil and gas state. Safe, responsible exploration is both a regulated right and a community responsibility. Our organization is confident a strong State and local oversight can assure the industry meets the responsibilities to the community, adoptad on the 9th day of October, 2014.

STATEMENT BY DINO PATERNOSTRO

MR. PATERNOSTRO:

Good evening, everybody. We ask that we jointly present, if you would.

My name is Dino Paternostro, representing GNO, Inc., which is the Regional Economic Development Alliance serving ten parishes, including St. Tammany.

GNO, Inc., is proud to support the oil and gas industry in southeast Louisiana, including the Helis Oil and Gas planned project in St. Tammany Parish. GNO, Inc. is in favor of energy production in the greater New Orleans region, and throughout Louisiana, done in a safe and responsible manner, of course. We are confident that strong State and local oversight can ensure that the industry meets it responsibilities to the community and we get the jobs. We can have both, as proven across the state over many years. The

state has a good track record in this industry.

The importance of the energy industry to our state cannot be overstated. The oil and gas industry supports over 300,000 jobs, 2.5 billion in household earnings in Louisiana. Last year, the industry paid nearly 1.5 billion in Louisiana taxes, and support to our resources base, as well, our colleges, healthcare, et cetera. Louisiana is leading America's energy boom right now. We need to keep this momentum, and not turn back.

Also, we're proud to stand with the Northshore Business Council in their support. GNO, Inc., released a statement, alongside 16 business groups from across the region, Northshore, Southshore, East, and West, and these groups stand united in their support tonight, the Business Council of New Orleans and the Region, Greater New Orleans, Inc., Hammond Area Economic District, the Jefferson Business Council, the Jefferson Chamber of Commerce, the Jefferson Economic Commission, New Orleans Chamber of Commerce, Plaquemine Association of Business and Industry -- if you would, ma'am -- River Region Chamber of Commerce, St. Bernard Chamber, St. Tammany Economic Development Foundation, St. Tammany Home Builders Association, St. Tammany West Chamber of

Commerce, of course, the Northshore Business Council, Southeast Regional Coalition of Business Councils, the Tangipahoa Economic Development Foundation, and the Washington Economic Development Foundation. This group stands united in its support.

Thank you for your time.

MR. HENRY:

Charles Goodwin, Charles Goodwin.

STATEMENT BY CHARLES GOODWIN

MR. GOODWIN:

Good evening and thank you for having us here tonight. My name is Charles Goodwin, 2075 Lakeshore Drive, Mandeville.

I want to address you, not just as a resident, but as a business man. I'm a retired business owner, was formerly a Chamber of Commerce member for 17 years. I was a Chamber director for three, and on numerous committees, long-range planning, et cetera, for another four. So, while I understand business and I understand the business community. Please understand I also am a member of CCST, but I do not speak for CCST.

Unfortunately, all business is good business. The oil and gas business, unfortunately, is a dirty business. It pollutes, it contaminates, it smells,

it's noisy, it scalps the trees, and ruins the natural beauty that enhances tourism and even encourages retirees to come here to get away from what you want to bring here. All those tourists and retirees supports our restaurants, lodging, tax revenues, property taxes, sales, et cetera. Your dirty industry should not trump some other business person's clean industry.

If I, as a businessman, owned or were a stockholder in Abita Water or Abita Beer, a restaurant or a lodging or a homebuilder who wanted to sell homes to retirees to settle here, I'd be scared. I'd be really scared that your business is going to ruin my business.

Probably no single person knows the local community as well as the mayors do. Please note that the mayors of Abita Springs, Slidell, Mandeville, Covington, all know more than you do about this community. They know what is best for it than you do, and you are not a guest here.

There is a social and political axiom that says your right to swing freely ends where someone else's nose begins. In short, to translate to the fracing industry, a fracer's right to frac freely ends where someone else's rights begin, such as quality of life,

preservation of property values, clean environment, safety, et cetera. Succinctly and frankly, it axiomatic that the rights of the many trump the rights of the few. Hence, one more social axiom is, quote, the greatest good for the greatest number. You are not fulfilling that. The property rights of the many trump the mineral rights of the few, and remember, even Exxon's CEO is fighting to have fracing not near his home. So that seems to me that the Exxon's CEO is making our point for us, and that is no small point. He doesn't want it either.

To paraphrase General Russel Honore, if oil is so good for Louisiana, why is Louisiana still one of the poorest states in the union, one of the poorest educated, one of the poorest in overall health, and poorest in just about any method you want to use? Hence, I respectfully submit that oil is not nearly as good for Louisiana as Louisiana is for oil.

And what bothers me considerably is, this industry, the oil industry's distortions and misrepresentation. It tries to tell us what a good safety record it has, when it does not. There are hundreds of lawsuits and hundreds of settlements, one as many as $3 million.

I have one minute to go, so I'll try to finish.

While it says it has a good safety record, on one hand, that same industry studies by Conoco-Phillips and Schlumberger and Archer acknowledge a 60 percent failure rate in a 30-year span, get that, 60 percent failure rate in a 30-year span.

We have a mathematician in the crowd. I'm probably going to hack him off by saying this, but if you want to extrapolate that from strictly a mathematical basis, 60 percent in 30 years becomes 80 percent in 40 years, and 100 percent in 50 years. Those are not really good safety records.

And speaking -- I would like to ask this of Helis, one businessman to another, if fracing is so safe, why don't you provide our community and our parish with an irrevocable performance bond that the insurance industry will clean up what you mess up?

If your safety record is that good and there is so little at stake, that premium should be pitifully small, provided.

Thank you.

MR. HENRY:

Eunice Price, Eunice Price.

STATEMENT BY EUNICE PRICE

MS. PRICE:

Hello, my name is Eunice Price, and I would like

to thank you for holding this hearing and allowing us to speak our minds concerning the hydro-fracturing.

I live on the Doubloon Bayou. I've been a resident of Slidell for 15 years, I have two children, and I am a member of Concerned Citizens of St. Tammany.

I have a private well on my property which supplies all the water that I need, all my residential needs, bathing, drinking, cleaning, et cetera. I am concerned that hydro-fracing will contaminate the aquifer which supplies the water. For that reason, I ask that you, DNR, deny Helis's permit application.

Thank you for your consideration to my concerns.

MR. HENRY:

James Blazek.

STATEMENT BY JAMES BLAZEK

MR. BLAZEK:

Good evening, and thank you for coming down and sharing with us and listening to us. It is very important.

I live here in Lacombe on Bayou -- on the bayou, and I have two wells. They are the sole source of my drinking. If I lose those wells, I have no drinking water or other water to use.

My profession is an attorney. Fifty years, I've

been practicing. Most of that was with the law firm of Adams and Reese. It is one of the largest firms in the four-state area. When I started, we had eight attorneys. When I left, we had over 275.

My main job, profession, was defending oil companies, drilling companies, diving companies, mud companies. My major clients were Shell Oil, Exxon, Mobil, Noble Drilling, Rowan Drilling, and several other drilling contractors. Myself, my firm, Adams and Reese, and, of course, a very fine firm, Liskow and Lewis, had made a very good living working for the oil companies. We made that living defending the oil companies when they had accidents. I have handled hundreds of accidents for Shell, Exxon, Mobil, the drilling companies, the mud companies, the casing companies, and despite the best efforts of all these companies, and despite their good intentions and their good safety programs and environmental programs, I had hundreds of cases that I defended them each and every year.

To listen to these experts, paid experts, talk about that this is a very safe thing defies what you and I know. Liskow and Lewis, Adams and Reese, Jones-Walker, I can name 10 or 15 large firms here in New Orleans area that handle hundreds of cases for

drilling companies every day. It results from casing failures, cement failures, tubing failures, tong failures, and you name it. Despite the best efforts of these companies that are premier companies that work very hard to limit accidents, but, unfortunately, the contractors, the subcontractors, that come in cause accidents and cause pollution. This is what I did for 35 years.

My two wells now and the wells of my neighbors are in jeopardy because a person from New Orleans wants to come and drill a well and we have to gamble with our aquifers that maybe it won't mess up. I'm sure he'll try to do a good job, but you and I know that it is not true that when there is a 4,000' string of casing, we know when you put the casing together in different joints and lengths, there are failures. There is failures with supplies. There is failures with the tubing. There is failures with cement. And just like in the BP case, they assured all the officials that there would not be an accident, and there was.

Please consider our rights as citizens to have our aquifers safe.

Thank you.

MR. HENRY:

Robert Jewett.

STATEMENT BY ROBERT JEWETT

MR. JEWETT:

Commissioners, I just want to say, you know, thank you for coming. I mean, I think you didn't have to come, and I think your presence here speaks really highly of you. And, ironically, I really wanted to thank Mr. Courreges who is -- not everyone probably knows this, but he's the spokesperson, I believe, for the DNR, and I've seen him, but he's left now, which is -- I was going to say I'll bet no one ever thanks you, so he's not here to receive, but he does a good job, and I know a little bit of what that work is like and it's not easy, so I think that we all should thank you for coming.

So, my background, I have a PhD. A little bit like these guys, I'm an energy industry consultant. My actual area of specialty is operational safety training. So, for instance, I'm a Rig Pass instructor. You all know what a Rig Pass is. Rig Pass, for the crowd, is like the baseline safety curriculum that people in the oilfield take. It is actually sponsored by the International Association of Drilling Contractors, and I would like to think probably Helis is a member of that, and I'm actually

the person too, besides being a Rig Pass instructor, I'm, I think, the only in the world author of an electronic-proved version of Rig Pass, so a version people can take online.

So -- but, you know, I don't really don't want to speak for the industry, and I'm kind of weary about that, and I hear other people sort of doing that in different ways. You know, the thing I want to say about that, the oil industry is very large. It is not monolithic, you know. It's not just a single structure, and this is like not some kind of weird loyalty test, you know. This is really more like a reality check. All right. And, you know, the oil industry has to enter into the public sphere with people like us and people like the public here, right. And sometimes it doesn't really do it as well as it might, and I think one of the things is there is just more honesty needed.

And I think Jim's comments were really good, the last speaker, and some of the speakers before, too. I want to kind of echo some of these, you know.

Why does a person like me exist? Why do we have somebody who specializes in teaching people about operational safety? All right. Well, it is because this is really tricky work. There is a lot that can

go wrong. The consequences can be pretty dire.

You know, the industry should have pointed out I think tries quite hard to conduct itself safely, but it is just not that easy to do, and we're talking about complicated systems. We're talking about intriguing geologies, and we're talking about different kinds of human failures, with a lot of different kinds of people involved. And I think we all sort of know, if we admit it, that if this one permit is granted, other permits will follow.

Helis has a record of selling their leases. They are not necessarily going to be the company developing this area of the TMS.

Another point I would make with you, too -- well, a couple of things. This whole matter of cement and casing, it's really interesting to me because it always seems to come back around to that. You know, the cement is just cement. It's kind of -- sometimes it's sort of high-tech cement. It's still just cement-casings casing, but Charles who spoke a little while ago said -- I was going to cite the same study, which is a well-known industry study, right? It's not conducted by any environmental extremist or something. It's conducted I believe by Schlumberger. It says that, over the course of time, basically, it says, all

well integrity lapses, all wells fail. This is a human product. Like anything else we build, it's mortal.

Finally, I would just say Helis's safety record -- I really don't have anything bad to say about Helis.

I would encourage -- the one thing I noticed that did not come up that I think should -- I'm surprised it didn't -- is if you did a search online, the old Mineral Management Service, now BSEE, regulator of the offshore oil world -- and I notice the consultant concentrated on a land-based side. It's a really interesting strategy, because if you look offshore, I think you'll discover, if you search, the Brazos area of the Gulf, 12 years ago or something like that, a very major, major accident. I kind of mini-BP accident. You don't have to take my word for it. It's a public record. I could be wrong. Perhaps I didn't read it correctly, but I'll believe you'll find it.

Well, I'm to conclude.

So, as a St. Tammany resident, somebody who is at least partly familiar with some of these issues, well, I really think you should reject this. I don't think they've proven that they can do this safely. I don't

think it is provable. I think a lot of holes have been pointed out, and as we go down the road, more of those holes are going to be pointed out again, again, and again, in different venues, because the public here isn't going anywhere.

Thank you.

MR. HENRY:

Lanny Cazaux, Lanny Cazaux.

(No response.)

Chuck Kirby, Chuck Kirby.

STATEMENT BY CHUCK KIRBY

MR. KIRBY:

Can I ask that the record reflect -- I'm assuming that this --

I notice there is a lot of discussion about the distance -- from the prior speakers about the distance from the well site to the high school, and that was listed as something like a mile and a half or a mile -- 1.8 miles. I'd just like to point out that the driveway that leads to that site that tends to be used is I believe within the school zone light districts. So I would like for somebody to clarify that, please, maybe you guys can do that. I don't know. Because it is misleading. Because all those trucks that are going to go back and forth are going to come right out

there (indicating), right in front of this school, even though the drill site is about a mile and a half away, okay.

My name is Chuck Kirby. I'm a resident of St. Tammany Parish. I live in Mandeville about three miles from here. I'm a member of the Concerned Citizens of St. Tammany. I have a bachelor of science in chemical engineering.

My personal story is, I moved here about five years ago for work. I relocated from Cincinnati, Ohio. I retired about three years ago, and everything is great. My wife and I decided to stay here. We love the people, we love the culture, and, of course, there is always the food to love. But I've got to tell you, if St. Tammany Parish becomes part of the oil patch, we are going to move. We're leaving. We're out of here, maybe we'll go to Florida. I don't know. I don't know. This saddens me, but I don't want to see or experience the decline in the quality of the life that drilling will bring to St. Tammany Parish. I just don't want to see it.

As I see it, drilling in St. Tammany Parish will only enrich the few in the short term and leave huge long-term costs left for many, and that's the people that are here and the people that left.

So my respectful request to the DNR is that they deny this so I can live here, and the next one, and the next one, I -- please, deny the drilling requests.

Thank you.

MR. HENRY:

F.W. Cooper, F.W. Cooper.

(No response.)

Mark Mitchell, Mark Mitchell.

(No response.)

Sherri Barton, Sherri Barton.

(No response.)

Larry Russ, Larry Russ.

(No response.)

Cynthia Schmidt, Cynthia Schmidt.

(No response.)

Libby Bollich, Libby Bollich.

(No response.)

J.L. Bollich, J.L. Bollich.

(No response.)

Scott Eustis, Scott Eustis.

(No response.)

Reed McClintock.

MR. MCCLINTOCK:

I'm right here. Are you all still awake?

STATEMENT BY REED MCCLINTOCK

MR. MCCLINTOCK:

Test, okay. We're back on.

I know you are tired of statistics, but I'm just going to throw three separate sets of statistics at you. These are from a published document called "Shalefield Stories," and these are stories from Pennsylvania, Wyoming, Ohio, West Virginia. These are actually case histories of the pain and suffering caused by the oil industry in those areas. Pennsylvania, in particular, has been a disaster, but here are the statistics.

In 2010, there were a total of 1,609 wells drilled, 111 failed; in 2011, there were 1,979 wells drilled, 142 failed; and, lastly, from January to August of 2012, there were 1,014 wells drilled, 67 wells failed. So that is a total for 2010, that is 6.9 percent of the wells drilled failed. In 2011, 7.2 percent of the wells failed, and in 2012, and that's not a full year, 6.6 percent of the wells failed.

Now, I'm no -- I'm no -- I don't bet the horses. I don't go to Las Vegas, but I don't like those odds, and we have to face up to the fact that whatever happens within about a mile and a quarter of the front door of this school, whatever happens here could happen. It could be one of these percentage points.

I'm 80 years old. My wife and I moved to the Northshore in 2002. We've tried to be good citizens.

I became president of the Kivanis of greater Covington. I've served on a jury. In fact, I was the foreman. We became election commissioners. We are active in the community as volunteers. We've tried to do the right thing. We wanted to live out our golden years here on the Northshore of Louisiana. We love New Orleans. We find the people here friendly and helpful. The food is wonderful, as my waistline will attest. But I am telling you right now, very sincerely, that if this drilling thing starts to happen up here on the Northshore, my wife and I will put our house up for sale and we will move elsewhere.

If I wanted to live in the oilfields, I would have bought a house in the oilfields. I don't want the oilfields coming to me, and I am not naive enough to believe that this exploratory well is going to be the only hole drilled around here. The oil industry operates a lot like -- very frankly, like this meeting. They wear you down. This is a perfect example.

My daughter who lives in New York State. She lives in New York City, she is very active in the anti-fracing campaign there, and New York is very

conscious of what can go wrong with fracing because Pennsylvania has been an absolute fracing disaster.

I'm going to give you a phone number in closing, and if you are interested, you can get a copy of this booklet, and I urge you to do so, please. It will give you an overview of actual cases of things that have and can go wrong in the fracing and of the oil industry, and here is the number, area code 412-461-5650, and it is entitled "Shalefield Stories." It will cost you $5.00 plus whatever the postage is. I strongly urge you to order a copy.

Thank you.

MR. HENRY:

David Easley.

STATEMENT BY DAVID EASLEY

MR. EASLEY:

This is kind of a surprise. I didn't -- I thought I checked the other box, but somebody just told me, oh, your name is up next, but I do have a couple of things to add just to a couple of recent speakers.

The gentleman two or three speakers ago who spoke about the Helis accident in the Gulf that -- just to narrow that down for you, July 13, 2001, there was a death on the -- the report showed that they weren't

guilty of the death because they -- you know, it was a case like two life boats and each -- the occupants each thought that the guy that was soon to die was in the other life boat, but, you know, the fact that they had the accident and they needed the life boats was their fault, and you can see that from that report if that will help you find that, July 13, 2001.

And the gentleman that just spoke, he mentioned six percent, seven percent failure rate, and, well, to a gambler, that might sound pretty good for one well, but, you know, everybody knows this is the -- intended to be the first well in a huge operation. So let's say 1,000 wells, well, six percent of 1,000 wells is not very hopeful to me. It's pretty scary to me, so, okay.

Thank you.

MR. HENRY:

Amy Blossman, Amy Blossman.

(No response.)

Dick Blossman.

(No response.)

Joseph Grimley, Joseph Grimley.

(No response.)

John Lea.

MR. LEA:

Here.

STATEMENT BY JOHN LEA

MR. LEA:

Gentlemen, thank you very much for coming.

My name is John Lea. I'm a resident of St. Tammany Parish. I have a PhD in agricultural economics and 25 years of experience in economic development practice.

I help farmers and agri-businesses and communities use government programs and policy to develop their business and improve their wellbeing and their quality of life. I'm currently assisting members of the Louisiana seafood industry recover from the BP oil spill and from generations of environmental exploitation by the oil and gas industry.

I'd like to remind you that, especially the citizens of St. Tammany Parish, of the many times the actions of the oil and gas industry have resulted in ecological disaster, and human suffering, sickness, and loss of property values. We can easily see this in a recent BP spill and in a recent collapse of the salt dome at Bayou Corne. With this shameful memory, we can add the destruction of the small Louisiana villages. It was absolute destruction of Mossville, Diamond, Morrisonville, Sunrise, and Revilletown. It

is shameful because this destruction occurred under permits that were issued by the State of Louisiana.

St. Tammany Parish has historically been appreciated for its pristine environment of clean air and pure water. In the late 1800s and 1900s, St. Tammany built a tourist industry based on its healthy environment. More recently, it seemed an economic boom driven new immigrants fleeing the ecological disasters south of the lake and caused to a significant degree by the oil and gas industry.

I'm a citizen of the parish, and I do not want our parish to fall in the footsteps of other industrialized parishes, even if it does mean that some of our local landowners will gain millions of dollars. It's only a few of them, but the large rest of us have to put with the mess that will be left behind.

Part of the reason I moved to St. Tammany Parish is its relatively pristine environment and its commitment to (inaudible) of economic development that will maintain that environment. This commitment should assure that my property values will go up with an improving natural environment and not down with industrial development.

As members of State government, you have a

constitutionally-mandated obligation to protect our individual rights to a healthy environment and our parish's right to determine the character of our community through zoning regulations. So I'm going to urge you to wrap yourselves in the State Constitution and deny this drilling/fracing permit because it is only the beginning of the gas and oil industrialization of our parish, and is a violation of our constitutional rights.

Thank you very much.

MR. HENRY:

Ken Pierro, Ken Pierro.

(No response.)

Elizabeth Withern, Elizabeth Withern.

(No response.)

Maurice Dupre.

STATEMENT BY MAURICE DUPRE

MR. DUPRE:

My name is Maurice Dupre. I've been a citizen of St. Tammany Parish since 1984. I have a PhD in mathematics from the University of Pennsylvania. I have been a member of the America Mathematical Society for over 40 years, a member of the North American Society of Research Scientists for almost 40 years, and a faculty member of Tulane in the math department for

over 40 years.

I have to say, when it comes to this hydraulic fracturing, I have some problems with the math. The recent government accounting office reported -- June of this year, reported that over two billion gallons of toxic wastewater are being injected for waste storage for hydraulic fracturing every day, every day, nationwide.

So what we're talking about here in St. Tammany Parish is Helis making this beautiful presentation is sort of like the drug dealer who says the first one is free. It's like the camel wants to get its nose under the tent, and once it does, you'll have industrialization to the tune of what the government accounting office reports, but let's look at some more numbers.

Recently, the CEO of Halliburton announced to his shareholders that the new well completion techniques would require 75 carloads of sand, as opposed to just 20 carloads of sand. In other words, we're talking about four times as much. If you'll look at the U.S. Geological Survey description of hydraulic fracturing, it says it requires two to six gallons of frac -- two to six million gallons of frac fluid, but a large one can go to 15 million. Well, if you take 15 million

and multiply it by four, which Halliburton wants to do, you get 60 billion gallons. And, by George, the largest frac well completion jobs have recently surpassed 60 billion gallons.

It make economic sense. Hydraulic fracturing is basically underground strip mining. It doesn't make economic sense to have only one hydro-fraced well with one horizontal bore. So, in order to get the most out of their mineral leases, we are going to have to have many, many wells, and we could see something like 1,000 in St. Tammany Parish.

Now, if you take that 720 billion gallons of waste that is injected every year, according to the government accounting report, and multiply that by four, that gets you up to over 2.8 trillion gallons. Now, 2.4 trillion gallons is about the volume of water in Lake Ponchartrain, so you can throw in probably Lake Maurepas, as well.

The idea that any industry can safely handle trucking around here to there injecting in the storage wells for hydraulic fracturing operations, that volume of fluid just defies any logic. So, just on that basis alone, one has to say this is a very bad thing to get into around any residential areas.

Up there in the Bakken Shale, they are out

drilling in the middle of nowhere. Here, we have a residential area, 240,000 people. The appraised -- the assessed value of the property in St. Tammany Parish is 2.2 billion, that means the actual value is between 15 and 22 billion.

Peer-reviewed papers in academic journals show that the value could down by 30 percent. The mineral -- the people who get money from the leases, they will gain by 11 percent overall. So we're talking about giving $2.2 billion to a very few people so that everybody else loses between 4.4 and 6.6 billion.

MR. HENRY:

Ren Clark, Ren Clark.

(No response.)

Barbara Braud, Barbara Braud.

(No response.)

Carlo Hernandez, Carlo Hernandez.

(No response.)

Paul Stone, Paul Stone.

(No response.)

Polly Anderson, Polly Anderson.

(No response.)

Kenneth Rehoe.

STATEMENT BY KENNETH KEHOE

MR. KEHOE:

Good evening. It's Kehoe, by the way. My name is Kenny Kehoe. I live in Lacombe, Louisiana, on Cypress Bayou, on beautiful Cypress Bayou. I'm a member of CCST.

First of all, thank you for the hearing tonight and the hearing of our side of the story.

I grew up in New Orleans, but like many families from New Orleans, we came to St. Tammany on weekends. And I can remember a time when I was nine or ten years and I paddle a pirogue through a marshy stream in southeast St. Tammany, and I was amazed in watching nutria flush out ahead of the boat and being introduced up close and personal to giant spiders that hung on webs that was spun between the reeds of the marsh there. And even at nine or ten years old, when I saw a baby alligator, I knew that mama was close by, so I hastened my exit.

Ultimately, I went to Texas and worked for 28 years, but I always knew I would come back. It was just too beautiful, just too compelling. I had to come back. I had a vision of St. Tammany, and I'm not the only one that had or has a vision of St. Tammany. The economic and population growth projection for St. Tammany paint a very rosy picture, and it's because people have a vision and that vision does not

include fracing.

As I understand it, part of your responsibility is to determine the best use of natural resources, and St. Tammany's best and greatest natural resource, if you will, is our pristine natural beauty, and to allow this permit would be to trade one questionable and risky resource for one that is proven.

Anything else -- if you -- to deny Helis's proposed operations, then is to bet on a sure thing. St. Tammany's natural resources, her natural beauty, will propel her into a bright future for many decades to come, but anything else tinkers with an incredibly spectacular example of natural design, and you have to be responsible for it.

I'll leave you with this. A lot has been said about double and triple layers of concrete and steel, being the stewards of the future. I mean, these guys can't be serious, can they? We've now heard other people testify concrete cracks, concrete seeps, and seal corrodes 24/7, and it is put into the ground and left in the ground. This is what their well pipe is going to look like (indicating). This is steel that was left in the ground. This is what the protection will look like in 30 years, okay.

To drill in St. Tammany is to bet against Mother

Nature. God and Mother Nature took millions of years to build what we have. Please don't let this industry, this oil industry, dismantle millions of years of natural design in a few decades and leave a wasteland behind.

Thank you.

MR. HENRY:

Virginia Fortson.

STATEMENT BY VIRGINIA FORTSON

MS. FORTSON:

First of all, thank you all very much for coming to St. Tammany and having the public hearing here. I really appreciate that. And I want to thank too this court reporter that is one of the hardest working people in this room tonight, and I commend her for her diligence.

I'm Virginia Fortson. I'm an AICP certified planner, a registered landscape architect. In the past, I was an environmental consultant for LDEQ and educating St. Tammany Parish about Phase 2 of the scum water requirements. But, mainly, I'm here speaking as a resident of St. Tammany Parish, and would like to ask that you not approve this permit for the following reasons.

I'm opposed to it because there is no way that

anybody here or anybody involved in the project can guarantee that our water, our only water source, will not be ruined to where we can't use it anymore or live here, and that's one of my biggest concerns. I'm going to skip a lot, because a lot of people have said some of the things I was going to say.

I'm also opposed to it because our surface waters are endangered by this, not only from the pollution of the surface waters, but I'm wondering where this five million gallons of water that they need is going to come from. It has been mentioned that it would be from surface water and from ponds, maybe. If they are from St. Tammany Parish, then my concern is, is this going to degrade our water -- our rivers and bayous and lakes by reducing the volume of water in those waterways, which can affect the whole ecosystem and the health of that ecosystem? Possibly, if it is reducing the volume enough, it could even allow some saltwater to come farther into our streams. So I'm really concerned about what is going to happen with the surface water in this parish if that is where the five million gallons of water that they need are going to come from.

I'm opposed to the project because of the dramatic increase in industrial traffic, truck

traffic, that is going to be in this area, not only close school, but we don't know really -- I mean, if there are other -- later, there are other wells, it could be truck traffic like this all over the parish.

And I'm particularly concerned about the safety, because they are right here in the main intersection where those -- all those children and families come to this high school. It is going to be the same one being used by the trucks that are coming off of I-12.

I'm also opposed because of the existing zoning that does not allow this industrial use, and I was a part of that process that Barbara Dodd has talked about where, for years, hundreds of people in this parish spent thousands of dollars to first craft the New Direction 2025 Comprehensive Plan which is the first step in the process of zoning, and then many more years and time were spent to get that zoning in place, and all of this and the process that was followed and very much participated in by the people of this parish are the procedures that are set for doing this. They are established for doing this by State law, State statutes, and also by the Home Rule Charter. So everybody went by the book in following those rules, put that zoning in place, and now this is the use that is proposed in the area that is not zoned

for it.

I'm also -- okay. I'm also opposed because the process, it breaks up all the shale layers and everything could have the potential of actually moving that fault line that runs through the lake, and I'd hate to walk out of my house one day in old Mandeville and see that our Lake Ponchartrain has been drained like a bathtub or something just because the fault line has been moved by that activity.

I'd also ask if there is any possibility -- I just learned today about the Nature Conservancy's Watershed Modeling Application. I'm wondering if you all had utilized that in any way in your decision-making process, that looked like a good way to look at it?

And last of all, the information I've been able to gather, the economic benefits of this project are primarily for the property owners and the well owners and very little benefit to the rest of the people of this parish. And so I'm wondering if the risk to the many people of the parish are worth taking the significant risk for the monetary value just for that few of people?

Thank you.

MR. HENRY:

Kurt Pearson, Kurt Pearson.

STATEMENT BY KURT PEARSON

MR. PEARSON:

Yes. My name is Kurt Pearson. I've lived in St. Tammany Parish my whole life. This would be around like 57 years.

I also crabbed in Lake Ponchartrain before I could drive. So I, not only live here forever, but -- and will live here forever probably, but also I depend on my livelihood with the water, the lovely, valuable, precious water that, apparently, the oil company just wants to destroy.

From what I've heard from all the people here, why would anybody be to drill anywhere for anything but water, but, yet, everyone here, except for the exception of our friend Ian Somerhalder who probably came in by jet, and our Native American friend probably either rode a horse here or paddled a canoe, came here by car. So what do they use? Oil and gas, oil and gas. To me, it's so hypocritical, just pathetically hypocritical that they want it, they want to use it, but they want it drilled somewhere else. Where? Our good liberal friends maybe want it drilled in the tundra of Alaska.

If Helis Oil drills here and they screw up, there

is no more Helis Oil. Look what happened to BP.

AUDIENCE MEMBER:

(Inaudible.)

MR. PEARSON:

And all the people that are harmed by it will be filthy rich.

AUDIENCE SPEAKER:

That's not true.

MR. PEARSON:

So I would urge my fellow friends here, since they are so afraid of this, the most dangerous thing they are ever going to do and the most risk they are ever going to take is when they drive home today on the highway, not because they have some bad water. Besides, I don't think anybody here, except for a very few people, are drinking water anyway. I think they are swallowing that liberal Kool-Aid.

Thank you.

MR. HENRY:

Adrienne Sutter, Adrienne Sutter (sic).

(No response.)

Greg Crow, Greg Crow.

(No response.)

Kelly Kreminski.

STATEMENT BY KELLY KREMINSKI

MS. KREMINSKI:

Hi. I'm Kelly Kreminski. I'm a resident of St. Tammany and a member of CCST.

It's like I'm real tired, and whatever is going to come out of my mouth, you guys aren't going to know what I'm saying, so I'm going to make your night, and I'm going to write you tomorrow, and you're going to get it by fax. How about that?

You all have a nice night.

MR. HENRY:

Terry Lewis Stevens.

MS. STEVENS:

Do what?

AUDIENCE MEMBER:

Turn the sign around.

MS. STEVENS:

This way (inaudible)?

AUDIENCE MEMBER:

Yes.

MS. STEVENS:

You don't want these guys to be influenced by this sign?

STATEMENT BY TERRY LEWIS STEVENS

MS. STEVENS:

Thank you all for taking the time to come here to

St. Tammany Parish. We really do appreciate it, and I'm sorry we've kept you here so long.

Obviously, the passion here is very, very high. This is impressive, and you know it, we know it, and we hope that we have impressed upon you how important this is to the citizens of St. Tammany Parish.

My name is Terry Lewis Stevens. I'm an LSU School of Architecture graduate. I'm CCST member, and I'm a licensed architect in 20 states, as of today. My professional area of expertise includes code review, permit applications, and construction document creation, adopted regulations local, state, and federal, as well as municipal zoning ordinances play a role in my professional life every day. So I know permitting pretty well.

When I heard tonight the permitting process for obtaining a well -- a permit to drill a well, it is a little bit disturbing that it is so inadequate. It doesn't seem as though there is much regulation that they have to follow. There isn't much criteria that they have to follow, and that troubles me greatly. I'm doing this for a living.

Codes, by and large, are the very minimum standards. They are not the maximum. They are not designed to do anything more than to protect the

general public, that is what I am licensed to do, and I believe that is what your charge is, as well, to protect the health, safety, and welfare of the people of St. Tammany and the people whose lives you will impact by releasing a permit to drill.

It's really important for you to understand that aspect of it, because our natural resources, as you know, are shared. They are not just Helis's. They are not just to the oil industry's. They are not just mineral resources. They are air, water, and land, and you help to govern these, as well, again, for the health, safety and welfare of the citizenry of the state of Louisiana. So we hope that you take that as seriously as we do.

You know that this is a really high-risk industry. We all know it is a really high-risk industry, and because of that, those sorts of uses end up in areas that are zoned industrial, and in this case, this type of drilling, will probably end up in where -- the Category 1 through 4 in St. Tammany Parish of industrial zoning, it would probably end up in 4 or 5, where paper mills, where concrete plants, where asphalt plants, where nuclear power plants end up being zoned, which is far away from the rest of the residency for a reason, because there are inherent

risks. There are emissions, truck traffic, noise, nuisance, and, of course, the risk of contamination of the water and the aquifer.

This particular permit includes a specific site, that specific site is zoned in the area zoned residential. Regardless of whether there is a structure there existing, there could be a structure right next to this land -- this drill pad. It could be houses, because that is what it is zoned for, and that is three per acre which is an awful lot, that should concern you, because it certainly concerns us. If that permit where it is currently located is allowed to proceed, they will be drilling in residential area, and that's not what zoning is all about, that's not what the premise of zoning is, and the premise of what your charge is to protect us all.

Finally, I will remind -- Patrick and I have had correspondences since the beginning of this process, and one of the very critical things that he it seems with me was the fact is the DNR is charged is to govern the how, not the where of drilling. So, tonight, I'm going to ask you to consider how you granting a permit to Helis or any oil and gas company will affect St. Tammany Parish residents. How will it affect our water? How will it affect our lives? How

will it affect our air quality? How will it affect our roads, our community? All the things that we hold dear, you are putting at risk by granting a permit for Helis.

So I urge you to deny the permit on this basis and deny every subsequent permit application from them going forward.

Thank you very much for coming.

MR. HENRY:

Cynthia Rester, Cynthia Rester.

(No response.)

Lucy Tierney, Lucy Tierney.

(No response.)

Martha Stewart, Martha Stewart.

(No response.)

Deborah Burst, Deborah Burst.

(No response.)

Shannon Villamarette, Shannon Villamarette.

(No response.)

Donald Kileen (sic).

STATEMENT BY DONALD HAYES

MR. HAYES:

My name is Don Hayes, and I'd like to thank the Board for coming to hear our complaints and Helis Oil to participate, what's left of them.

And I come from a family that has been in this area for over 200 years, and I'd like to leave something to my kids, you know, my grandkids.

And what troubles me is not what we see right now. They all talk about the economic benefits from the oil that they are going to get and everything, but what worries me is what we're going to be left with 25, 30, 40 years, 50 years, 100 years from now. Louisiana is full of ticking time bombs, and it's going to be a mess for our kids, and that's what worries me, and that's why I oppose this project that -- I want a better place for my kids and my grandkids than what we have now, now, and what is in the future.

But this -- they all talk about the benefits of this, but nobody has talked about if this goes south, if this goes belly up. They are going to walk and leave the taxpayers of this parish holding the bag for water treatment plants, you know. How many people here want to see their taxes go up by triple, huh -- nobody -- for a water treatment plant? It'll be on our shoulders, the taxpayers' shoulders, you know. They walk. They'll claim bankruptcy and they are gone, you know, that's what I -- that's my concern, my main concern, you know, that's why I ask you to deny this permit.

Thank you.

MR. HENRY:

Hunter Charbonnet, Hunter Charbonnet.

(No response.)

Cindy Brooking.

STATEMENT BY CINDY BROOKING

MS. BROOKING:

I want to thank you all for letting us have this meeting, and I know that it is kind of unheard of for you to do it, and I'm sorry it's gone this late, but I've waited you out, and so I want to say my little spiel.

The first thing that I -- the first and most important thing to me is that you are taking away my rights. You are taking away everybody in this room, in this parish's rights, granted to us under the Constitution of the United States of America, the State of Louisiana, and our Home Rule Charter when you do not look out for our health, safety, and welfare. And I think if anybody in this room agrees me, they can go to the St. Tammany Parish Council government site and look at the Home Rule Charter Committee, and click to communicate with them.

I've worked in the oil and gas industry for my whole career, basically. I've worked with some big

names and worked with some little names. I worked for Pennzoil, Quaker State, BP, Winnwood Petroleum a little distributer. I worked for PetroLite in a joint venture with Pennzoil, and I worked with a South Korean company that imported U-base oil for Pennzoil, so I've been around this industry a lot.

I want to say there are valid health concerns. There are valid health concerns for anybody who works in the oil and gas industry. I started at a packaging plant in Shreveport, Louisiana. I was exposed to all kind of chemicals. All of us were. There was probably about 35 full-time employees. Of the people that I still know of and still keep in touch with, six of us have had cancer. I'm one of the ones who is still around. There are some of them that are not still here. I can't help but think that that has to have something to do with that environment. Earlier tonight, I think it was Dr. Bourgoyne said that the economic impact could be considerable. I'm here to tell you that the environmental impact will be considerable.

I'm not going to go into the aquifer, although that is very important.

Before I forget, I do want to ask you all one thing, and I would appreciate an answer when I'm done

if you want to think about it, but I just want to know how much does our opinion matter to you in your decision making process? How much of what we are saying here tonight and in our e-mails and in our letters do you truly take into account when you make the decision? So I'll ask you that again at the end.

One of the things that concern me that nobody else has brought up tonight is, there is a specific chain of command for all this product, for all these chemicals that will be coming in here, for all these trucks that are going to be coming and going.

And I noticed the other night at the hearing in St. Helena about the Scenic Rivers Permit, one of the things that that oil company -- which I can't think of their name, but one of the things they kept referring back to was, well, when we say, well, what if something happens? Well, we would follow all the rules and regulations that we are required to follow.

Well, what is going to happen with that produced water, when it comes back out of the ground and it's polluted, what happens to it? Oh, it's going to go off to an injection well. Where? Well, I don't know. Well, what do you mean you don't know? Well, because we give it to a contractor, so wherever he takes it. So, wait a minute. It's not your responsibility at

that point? So those trucks carrying those chemicals, should they hit a school bus and kill a bunch of kids, it's not your responsibility?

Okay. I've been told I've got one more minute, okay.

Traffic, using an estimate of 2,500 trucks per well to carry the stuff to and from the well site, and our potential to have 6,000 wells, that's 15 million more 18-wheelers on our highways that's a tremendous amount. For the parents of the children that attend the school, even if there are only one well across that street, that's 2,500 18-wheelers that are going to go up and down that same street that their kids are going to be driving on twice a day. Using an estimate of 2.5 million gallons of water per well, and 6,000 potential wells, that's 15 billion gallons of water that is forever destroyed.

I'm going to do some math real quick on air pollution. I know it shouldn't have followed a mathematician. One year of 2,500 trucks in this parish, 1,240,000 pounds of BOC, 2,700,000 pounds carbon monoxide, 3,200 particulate matter, 139,000,645 pounds carbon dioxide, and 3 million -- a little over 3 million pounds of nitrous oxide.

UNIDENTIFIED SPEAKER:

(Inaudible.)

MS. BROOKING:

Okay.

MS. BROOKING:

That's one well, so that's what it is going to do to our environment.

So, again, I'm going to ask you and if you could give me an answer, how much does what we say weigh in your decision-making process?

MR. HENRY:

There is a statement period.

MS. BROOKING:

Okay. Well, I'm going to say please, please, for God's sakes, you know, this is not an oilman's paradise yet, but it fast becoming one. Vote no.

MR. HENRY:

Thank you, ma'am.

Walter Links, Jr., Walter Links, Jr.

(No response.)

Margie Vicknair-Pray.

STATEMENT BY MARGIE VICKNAIR-PRAY

MS. VICKNAIR-PRAY:

Thank you for allowing us to speak to you tonight.

I'm Margie Vicknair-Pray. I'm out of Lacombe,

Louisiana, which Helis seems to have forgotten is just south of their development site. In fact, my home is less than four miles from their site, their proposed first site.

St. Tammany is basically a suburban community in a semi-rural setting. Allowing fracing here is tantamount to setting us up for another worse disaster scenario. One toxic spill or explosion could easily affect thousands. We do not want oil and gas-based industry in St. Tammany. We have beautiful place here, and we want to keep it that way.

Statewide, oil and industry has meant a windfall for a handful of noncitizens, jobs for a few thousand citizens, and poverty and pollution for the rest of the state, a nice boom for a few politicians, as well. It is about time that DNR did what it is constitutionally bound to do, and that is to protect the resources of Louisiana, not sell them to outsiders who don't care about the long-term detrimental effects on our once beautiful and resource-rich state.

As a retired oil and gas safety officer, I know for a fact, because a company I worked for had many of them, that there are many natural gas wells capped off, and oil wells, across the country because it is not a good market. In other words, they can't make

enough profit. To say that this particular oil and gas must be retrieved right now is joke, and the industry knows it, and I think you know it.

The only reason to rush development through on this marine gas shale is because, once the Halliburton loophole closed, and that was part of the Bush's Administration's handout to the oil and gas industry in 2005, where they created special legislation that exempted fracing from the Clean Water Act, if it weren't for that, this fracing would not be allowed to go on. And, in fact, people poisoning groundwater and aquifers I believe is a treasonous activity. And if that loophole is ever overturned, and I pray to God it is, fracing will have to stop across the country, which would be the most wonderful thing that could happen to our country.

There is no other valid reason to push this toxic and dangerous technique as it is currently being promoted. There will be spills. I was a safety officer. There will be spills. There will be accidents, and there is no operator on earth who can say that there won't be.

Helis, in particular, has a checkered history. I looked up some of their background. I looked at one of their accidents offshore where it was involving a

sand axe, where they hit sand before they -- which sand would basically be like an aquifer onshore. They hit sand about 100' before they were expecting it, and they blew out the well, and, you know, underneath, lost the well, and it ended up exploding and killing someone. They have many -- the MMS investigated, they had many safety violations. They hadn't done their safety checks on valves. If they had, they probably could have prevented the accident. So they have not the greatest safety record.

Unfortunately, saying that, they are probably about average for oilfield companies. This gives me a cold chill when I think of the kind of chemicals they'll be using and putting through our aquifers.

I was in Tangipahoa back in June, and I saw a tanker -- well, I saw fracing convoy going through which I recognized right away, so I followed them and took some pictures, and one of the chemicals in there was one that is known as vinyl cyanide or acrylonitrile. It was a tanker in a fracing convoy, so I knew it was one of the chemicals being used, and when I looked it up, sure enough, I found out that that is one of the chemicals that is being found in drinking water all around the country, in Pennsylvania, Ohio, Wyoming, Colorado, Texas.

Wherever they've done fracing, they are finding this, and it is not a naturally-occurring chemical. It has to be placed there somehow.

The citizens of southeast Louisiana deserve better than this disastrous lack of foresight and planning by our governmental agencies that we have received to date. Your directive as an agency is to protect our resources, not to protect oil and gas interests. Please stop all drilling and fracing permits for St. Tammany. If you do the job that you are legally bound to do, you will do the same for the rest of the Florida parishes, as well.

Thank you.

MR. HENRY:

Cassandra Krebs.

STATEMENT BY CASSANDRA KREBS

MS. KREBS:

Good evening. Pretty soon, we're going to have to grant you good morning, by the way. It's getting there, hopefully, not.

Just sitting in this room tonight, in this gym, certainly more earlier when we had 500 or 600 people in here, but still now we have nurses, we have doctors, we have small business owners, we have teachers, we have scientists, all these people sitting

here who care so much. These people -- and I know so many of them, even when there were hundreds of people in here, I knew lots of these people personally, and I know what they have done. I know that they have studied. They have done their research. They have worked very hard for months now, and the verdict is in, as far as they are concerned, these hard-working people who have been doing their homework, the verdict is in, fracing is dangerous.

Evidence around the country, and it's already been mentioned. We know what has happened in Pennsylvania. We know what has happened in Ohio. The Dallas-Fort Worth area, they are not doing so well either, neither is Colorado. We hear sometimes, and there has been no proof of contamination or accidents. Well, in a court of law, proof comes from evidence. Proof is not a magic thing that happens in a moment. Proof is when you gather a large, a large amount of evidence, and it tips in your favor. Well, we have that evidence. Everyone who has done their homework here knows that we have the evidence, and it grows all the time. I can't keep track of my map that I keep to put on there all the accidents that happen around the country. Three happened in Ohio in one week, which was just a few weeks ago. I can't keep track of it

anymore as far as what is going on. So the evidence has come together on this. Fracing is dangerous.

Now, if you'll look around at the people, and even, like I say, when there are so many in the room, these people do not want their community to be industrialized. Am I right?

AUDIENCE SPEAKER:

Yes.

MS. KREBS:

They don't want this permit granted. And this is not -- this is not fly -- this is not fly-by-night. They have worked very hard to come to this determination, these people.

It is not the job of the State of Louisiana to protect the interests of industry. It is the State of Louisiana's job, and they must, by law, protect their individuals and their people, these citizens right here in this room.

Now, we don't want our tax dollars to be used to -- and by the way, they have been used, to cap wells of oil -- oil wells that have been abandoned and orphaned. I'm very familiar with the legislative audit that was done and also the private audit that was done by the STRONGER -- the group called STRONGER. I've read everything that they've all done, and I

don't think a lot of people in this room know that the -- for instance, the goal, inspection goal, in the State of Louisiana, because they have very few -- and I wish I had those numbers, I've got them written down, but they have very few inspectors compared to the number of wells in the state, and their inspection goal is to inspect a site every three years, which, by the way, that inspection goal has not even been met, but that is the goal. So, if we have a well over here down the street from this school, and anything is going on, as soon as possibly that we might get inspected would be that very, very long period, in other words, too late.

So, as far as there being a lot of regulations, yes, there are a lot of regulations, but they have not been carried out very well, frankly, and that's not my opinion. Thank you.

And I want to note something. There was a fellow who spoke here earlier tonight, and he was representing a business group. There were two of them up here at once. And I've already made my point, I don't think that the State is here to protect the rights of businesses, but the rights of its individual citizens. But he made a point that I wanted to speak on. He said, this parish -- he said, we have this

great thing going in this parish, okay. He is representing the business community. So we have this great economy in St. Tammany Parish, and we do.

Look at -- I mean, you know the State of Louisiana when it comes to education, I think that we're way down on the list there, okay, but as far as a parish, we're way up there on the list. We have a really great thing going, and we have a great thing going economically. And his words were this, quote, we need to keep that momentum, unquote. Well, exactly, exactly, we need to keep the momentum right now, so -- and the only time our momentum has ever been threatened for this parish to do well is right now.

So what we're hoping is that you do you your duty and help to protect the rights of these citizens here. These are not crazy people. These people want -- are their rights protected under State law, that is the epitome of sanity that they understand that.

And so we hope that you'll do the right thing and you'll deny the permit, and we have a chance to show the world right now, all of us, that we have all done our homework and that the State of Louisiana can be first in something. Why don't we show everybody that we can be first in respecting its citizen's rights,

that would be a really good first?

Thank you.

MR. HENRY:

Marta Badon, Marta Badon.

(No response.)

Shelley Price, Shelley Price.

(No response.)

Gregg Tepper, Gregg Tepper.

(No response.)

John Michael Myhall.

STATEMENT BY JOHNMICHAEL MYHALL

MR. MYHALL:

Good evening, gentlemen. You are to be commended for still sitting down. Truly, I do, I do want to join the other citizens who have thanked you for being here. It has been an incredibly long evening, and it is a testimony to your role as a public servant that you sat in those seats and listened and paid attention.

I am curious about something. I don't need an answer right now, but I've noticed that there is nothing going into the record anymore. The only thing that I've seen that happened, the reporter went offline, is Mike Stagg's video, so I am a little curious about that, because a lot of these people have stayed hoping their statements are read into the

record, so she is still taking this record?

MR. HENRY:

That is correct.

MR. MYHALL:

I'm going to make the assumption -- my name is Johnmichael Myhall. I'm 24-year resident of St. Tammany. I'm a small business owner, and my home is about 3.8 miles from where the proposed site would be.

I'm going to take the assumption now, because you have heard so many passionate pleas and I'll echo all of them in terms of the environment and everything great that has been said in terms of preserving St. Tammany.

I'm going to make the assumption that what you might be looking for now is something in the way of nuts and bolts that would actually allow you to say, okay, St. Tammany, we agree with you. We're going to say "no" to this, but you've got to give us a better reason. You've got to give us a real nuts and bolts kind of academic reason.

This is what I'm going to point out, because I haven't heard anybody point it out yet. It is simply this. We've talked about traffic. You've heard people refer to how much truck traffic there will be,

and I've got statistics that we can go to that. But what nobody's talked about is the fact that, because of this proposed site's location -- everybody in St. Tammany is very familiar with what happens on I-12 on a regular basis. The I-12 corridor is known for accident, lane closures, events, everything. In fact, when I left here a few hours ago to go get water, the off ramp was closed. It was a wreck on the off ramp.

Now, should that happen during fracing of a well when -- the New York Department of Environmental Concern estimates that 895 to 1,350 truckloads of equipment, sand, and water, and chemicals have to go in and out of a site, so we double that, that means that those 18-wheelers which max out at about 80,000 pounds apiece, those 2,000 to 3,000 18-wheelers now can't get on the interstate. And if you'll notice, the only way that they can go east and west is to progress down Highway 1088, go down Highway 59, which is a two-lane road, barely 16' wild, progress through old Mandeville on Florida Avenue, follow through on Highway 22 to go to Madisonville, across the swing bridge, which I have a feeling is not rated for that kind of truck traffic, and then proceed on down Highway 22 through Ponchatoula, and use back-road State highways. Now, that's the only way to go. So,

if there is ever a reason that they can't get on the interstate, they have to go that way.

But more importantly, I want to tell you this. I spent about two months this summer traveling 10,000 miles across this country, and one of the things I learned is that 18-wheel truckers are paid for expediency. They want to take the fastest route they can and they want to stay off bad roads. I took back roads trying to stay away from 18-wheelers. But in Oklahoma and Kansas, what I found was the 18-wheelers on the back highways. Why? I asked one of them, and he said it is simply this. The interstates are shot. Because we use them so much, the interstates are run down, so we're taking the back roads now because we can make better time through these towns, which, frankly, the towns have dried up because of the truck traffic.

So, if there is no other reason that you consider denying this permit, it has to be because there is no east-west egress for this site. The only way they can do that is to go through residential developments. We can't handle that kind of traffic, that is an absurd amount of danger and an absurd amount of chemicals and absurd amount of traffic, that is 208 million pounds of traffic across our roads.

Thank you very much. I don't need the minute, but I do want to thank you.

MR. HENRY:

Diana Norton.

STATEMENT BY DIANA NORTON

MS. NORTON:

Good evening, gentlemen. My name is Diana Norton and I'm a registered nurse here in St. Tammany Parish. How are you all doing? Do you all have water to drink? Get up, jump up and down. This has been a very long night for everybody, and actually, I'm personally kind of glad that people have gone home.

I've been a registered nurse for 20 years now. I've been a resident of Lacombe, Louisiana, for over 12 years. Let me give you my -- what is called -- certifications or whatever. I graduated from Loyola. I am certified in gerontological nursing, which means I like old farts.

We have talked a lot about -- I promised not to cuss, that's really not a cuss word, okay. I'm a nurse. We talk.

We have talked a lot about the youth of St. Tammany Parish. We have talked a lot about the school less than one mile away from this well site.

I will also talk to you about our seniors here in

St. Tammany Parish, and I'm talking about these citizens that are 55 years and older, these citizens that have gone home, thank goodness, and gone to bed, because they can't handle this. Lord knows, I wish I was with them. So that's what I'm here to talk to you about.

Nobody has talked tonight -- we have talked about environmental issues. We have talked about the problems with fracing with the well water and all that, but nobody has talked about our people, our community, and who makes up the people of St. Tammany Parish. So that's what I'm here to talk about.

The World Health Organization defines health as a state of complete physical, mental, and social wellbeing and not just the absence of disease or infirmity. The people who live in St. Tammany Parish enjoy clean air, pure water from a one-source aquifer, reasonable traffic on our two-lane highways, and a chance to live a healthy life, as defined by the World Health Organization. Now, that's the head honcho of health, the World Health Organization.

The United States Census shows demographics of age 17 and under at 30 percent here in St. Tammany Parish. So, in other words, the children, I'm talking children 17 and under, were at 30 percent here in

St. Tammany Parish, and the age of 55 and older at 30 percent here in St. Tammany Parish. So the makeup of this parish is 60 percent of our most vulnerable population, the population of our children and the population of our elderly adults. And the reason I say "vulnerable" is because I'm talking about problems with developmental ages in our children, the development of their immune system. Because they have not developed a full immune system, we can ask them to have fully capacitated lungs. Their immune systems are more prone -- or they are at risk for environmental effects, germs, and other issues, and our immunocompromised adults, our 55 and older seniors who have already seen life and seen the environmental risks and have already developed comorbidities as the chronic obstructive pulmonary disease, COPD, and cardio-pulmonary disease.

Now, according the Centers for Disease Control, Louisiana ranks as one of the states with the highest incidents of COPD, chronic obstructive pulmonary disease, and cardiovascular disease. In St. Tammany Parish alone, adults 55 and older with comorbid conditions, include adult asthma --

Oh, come on. I was asking about your health, give me two minutes.

COPD and CVD make up 42 percent of our population. We also have a population of pediatric asthma that makes up ten percent. All right.

Helis does not want to disclose the stuff that they use in their fracing, but there are common chemicals used in fracturing that we know of today, benzene, a known carcinogen, ethyl benzene, same thing, toluene causes miscarriages and causes placenta previa, that's also a common problem in -- in -- la-la-la --

AUDIENCE SPEAKER:

Pregnancies.

MS. NORTON:

-- pregnancies -- thank you -- xylene, diesel, diesel has just recently been classified by WHO as a carcinogen. So I'm not going to go over that list.

Immunocompromised adults that already have COPD cannot run the risk of having these air emissions and the quality of life also -- I'm sorry -- also compromised by having the quality of the air.

One more thing, and I will quit.

Silica, okay, one of the things that people haven't talked about is the silica in the sand, the silica that these trucks are hauling in every single day. These silica dissipate in particles, less than

ten microns. They get into the lungs, and they produce a disease called silicosis, and they can cause poor oxygenation into the lungs and also very -- are very bad for immunocompromised adults.

You all, come on. This is a great place to live, please, consider.

MR. HENRY:

Vinny Mendoza, Vinny Mendoza.

(No response.)

Michael Manint, Michael Manint.

(No response.)

Tori Bazer, Tori Bazer.

(No response.)

Peter McEnery, Peter McEnery.

(No response.)

Ben Gordon, Ben Gordon.

(No response.)

John Cowan, John Cowan.

(No response.)

John Lewis, John Lewis.

(No response.)

Sandra Slifer, Sandra Slifer.

STATEMENT BY SANDRA SLIFER

MS. SLIFER:

Thank you so much for coming here this evening --

or this morning.

My name is Sandra Slifer. I'm the president of the League of Women Voters of Louisiana.

The League of Women Voters of Louisiana urges the Office of Conservation to deny the application for a drilling well permit at the above site. There are unanswered questions regarding this proposed well. The applicants do not yet have their wetlands permit, and the 19th Judicial District Court has agreed to hear the case filed by St. Tammany Government verses the Office of Conservation regarding the residentially zoned property and community rights.

I am presenting electronic files tonight that contains the signatures of over 1,000 people who signed an online petition organized by the national organization, Environmental Action. I have also included a copy of a television ad that the location League of Women Voters of St. Tammany released last week, so I will be presenting you with this thumb drive this evening.

We share many of the concerns expressed by the residents of St. Tammany and people from around the country.

Unlike the statements you often hear, fracing is not a 60-year old drilling practice, but one that has

exploded on the scene over the last ten years. Indeed, it wasn't until Congress exempted fracing from the Safe Drinking Water Act and the Clean Air Act in 2005, that oil and gas companies truly began to frac using today's technology.

The business groups that were here earlier stated that they supported fracing if it was done safely. Unfortunately, the facts just don't support this supposition. Every day we hear about another accident or another scientific report, polluted water, damaged infrastructure, destroyed lives, due to the social ills brought about by man camps and thousands of temporary workers.

The League is amazed and proud of all of the time, energy, and learning that so many people in St. Tammany have engaged in since the Helis well was announced. We have been working on environmental issues around the country for almost 100 years. Often times, it is felt we were standing with only a few other hardy souls who were willing to go against polluters and those that wanted to destroy wetlands, clean air and water, scenic streams, and a way of life.

We believe that, if fracing comes to St. Tammany Parish that it will change the future development of the parish. Granted, the government and residents have

failed many times regarding smart development choices, but they have refused to give up and stubbornly continue to make St. Tammany a sustainable, safe, and nonindustrial parish.

Several years ago, I applaud Mr. Poitevent for his vision and for his sense of responsibility and stewardship of St. Tammany. I wrote an article praising him for understanding that the decisions he made would impact the future of St. Tammany simply because of the sheer size of the acreage he and his family owned. The plan he presented would create a series of connected villages, development in wetlands would minimal, habitat would be protected. There was no mention of industrial development or drilling for oil in any of the master plans he presented. We are now left to wonder what has happened to the family that had the vision and the wisdom to understand that the gift of land that they have received from ancestors also came with great responsibilities, not only to their own relatives, but also to the people of St. Tammany.

Lastly, we don't see the urgency in approving a well at this time. The price of oil is low, and there is a glut of oil in the supply chain, so much that companies are seeking permission to ship it overseas.

Oil is forecasted to sell for $97 per barrel, and it recently sold for 79.

I have about 15, 20 seconds.

One could argue that it is more responsible for the Office of Conservation to reduce production and conserve this natural resource until such time when it may be beneficial to the State of Louisiana.

We urge you to deny this permit. Let the courts make their decision regarding zoning and community rule. See if the U.S. Army Corps of Engineers will even grant a wetlands permit when there is so much other land available to the Poitevents that it is difficult to understand the need to construct anything in wetlands.

Thank you.

MR. HENRY:

Marilyn Morrisse, Marilyn Morrisse.

(No response.)

Dr. Michael Finn, Dr. Michael Finn.

(No response.)

Janice Oberry.

STATEMENT BY JANICE OBERRY

MS. OBERRY:

Hi. Okay. So, first, do I sound correctly from other there, because the other people talking like

that was really bothering me, so does it sound right now?

AUDIENCE SPEAKER:

(Inaudible response.)

MS. OBERRY:

Okay. So my name is Janice Oberry. I'm the founder of the Lower Pearl River Watershed Conservation Program. It was founded after the Temple Inland-Bogalusa fish kill in 2011.

I'm also a location scout and recruiter for the film industry. As you are well aware, this is now the new Hollywood south. Louisiana made over $800,000 -- $800 million last year in the film industry. I work for people like CMT, Swamp Hunters, Swamp People, you name it.

In all of my years in the film industry, never have I been asked to find them a location that includes a fracing pad or pollution. The reason why these people from California has came here to create this as the new Hollywood south is because of our pristine environment. If you look at the realm of film and then you put Louisiana in this hand, you will realize is where the film industry is in Louisiana is where oil is not. Now, that's all I will say about the film industry.

John Connors (sic) was here earlier and he spoke -- even though he is nothing more than a civil engineer, he spoke about rare species. I want to make sure that you all are well aware that St. Tammany Parish has more rare species than any other parish in the state, that is by the Louisiana Department of Wildlife and Fisheries. There are nearly 50 species, not counting 93 plant species. There are 50 animals. Among those animals, some of them are mice this big, (indicating). So it's really hard for me to believe that they checked all of that land for all of these species, when you have Mr. Connors here that proceeds to say there are only four, okay. So I would like for you to throw what he said about the rare species and put this in.

There is almost 50 rare species that call St. Tammany home, not including 93 rare plant species. Twenty-five of those rare plant species call the piney woods home. I'm not sure if you all know what the piney woods are, but that is what we refer to as the lands across the way, that is piney woods. So, of those 50 species, 25 of them live in piney woods where the fracing is planned to go.

I'd also want to point out that there is six streams designated as scenic rivers and protected by

the Scenic River Act in the Parish of St. Tammany.

I also want to point out that the Lower Pearl River watershed is the least altered river -- or one of the least altered river systems in the United States of America, and among the thousands of acres that Helis has mineral rights to includes a portion of Pearl River Wildlife Management area, as well as a portion of Bogue Chitto National Wildlife Refuge's acquisition boundary.

So I'm asking the Department of Natural Resources to deny the permit and not only uphold the Louisiana Constitution which also help protect the beautiful piece of Louisiana that we have not fraced and that we have not messed up.

Thank you.

MR. HENRY:

Stephanie Gray.

STATEMENT BY STEPHANIE GRAY

MS. GRAY:

Good morning. Can you hear me, am I too close?

AUDIENCE SPEAKER:

(Inaudible response.)

MS. GRAY:

I'm Dr. Stephanie Gray. I'm a professor and scholar who studies politics and science this very

moment that we find ourselves in today, and it's going to be more and more prevalent, these kinds of conversations, in our modern times in America and throughout the world. Although I speak to you tonight as a private citizen, these comments are informed by my scholarly training.

From this perspective, the coalition that is formed in opposition to oil and fracing and gas exploration in St. Tammany who you are hearing from tonight is a remarkable occurrence and a sign of the future and America and throughout the world.

Now, it seems there are a few so-called citizens who support Helis development and STP. Most of these individuals work in the oil and gas industry or are landowners concerned about mineral rights, so their interest is primarily economic. As a matter of fact, I know personally one of the landowners who is, currently, their land is being fraced in Tangipahoa, and he came to me and he said, I'm so excited. I've signed an oil lease. I can't wait for my fracing to come in. He said, I'm going to fly first class to Paris when I get my money. So that's what we're making that sacrifices for, just to be clear about it.

And as Sandra pointed out, and I think it is worth mentioning, other people have come forward in

support from all of these commerce groups, not to come forward as individuals, of course. They are not really thinking about liability. These organizations have no responsibility for anything that goes wrong, right? If it was safe, if ifs and buts were candy and nuts, it would be Christmas every day, right, if it were safe, but not all industry employees feel this way.

Now, one of the things I do, in addition to working as a professor, I run a little Facebook page, and we've all been talking a lot about this fracing issue. One of the things that I want to share with you is that, in addition to some people related with industry has spoken out tonight, there are many people that are afraid to speak out. They write me private messages. They say, please, don't reveal my name. They share with me websites, names of environmental attorneys, activist groups, and they say, please, speak for us because we don't want to lose our jobs, right. So those people are part of this conversation too, and they are afraid to speak out. And it is important that we think about the strange position they find themselves in, also.

So, Commissioners, I ask you to reflect on what you've heard tonight, and I want you to remember

something that we've sort of talked about, but I think it deserves further reflection, and that is that, not only have you heard this large group with these distinctive voices speaking in a respectful opposition I think to the Helis project, but it shows an interesting and unexpected convergence. Well, it was a convergence until it got really late, but it is very compelling, and I think worth our review.

The convergence has crossed the lines that so often hold people in our cultural heart. By some measure, people would think this politically conservative parish would have little room for environmental concerns. But under the banner of conservation of our resources, our way of life, our beautiful unique natural setting we have inherited, and the protection of our health, wellbeing, and the environment, political conservatives, moderates and progressives have come together. They have formed an enduring alliance and formed friendships, as we saw tonight.

The convergence unites republicans, democrats, independents, as well as those who have long been detached, were discussed despite the politics. The convergence includes business owners, professionals, doctors, nurses, attorneys, teachers, counselors, and

it includes and welcomes members of our parish who work in the oilfield and related industries, engineers, earth scientists, as well as workers and hands.

Beyond this, this convergence has called retired people, mothers and fathers, grandparents, our youth, who are smart and brave enough to recognize that their future is at stake. The convergence is color blind. It includes black, white, Hispanic, Asians, Native Americans. It is accepting of all cultures empowered of many different modes of expression. Some of us carry signs, other write letters. Some do interview in the media and some have given their time to the Fracking 101 storefront in downtown Covington.

Why, Commissioners, has this convergence formed? What has brought this incredibly diverse group of people together? Is everyone here simply misinformed? Do we seem the type of people who would worry over nothing or lend our efforts to a trivial cause? You know the truth, as we do.

The culture is changing in Louisiana and elsewhere. People will come together. They will cross every line where their health, safety, their environment, and their future is at stake. In St. Tammany this trend is underscored because the

threat is directly to our water, our single-source aquifer. The water is now at risk due to the contaminates used in modern-day fracing operations. Our air is also at risk. We know that these things are essential to our way of life here, and there are essential to our identity.

So, in conclusion, I want to say, we are St. Tammany. We remember BP. We remember Katrina. We care about our neighbors who will be forced to accept fracing waste, don't confuse us with another place or any place. Let us pursue our own unique path and keep this a special place and the rich heritage enjoyed by all Louisianans. I urge you to deny this permit.

Thank you.

MR. HENRY:

Barry Lewis, Barry Lewis.

(No response.)

Lawrence Kevin Coleman, Lawrence Kevin Coleman.

(No response.)

Reverend Robert Balknap, Reverend Robert Belknap.

(No response.)

Don Hayes, Don Hayes.

(No response.)

If anyone is still here that has a comment card in and they haven't spoken yet, if you can, please, raise your hand.

UNIDENTIFIED SPEAKER:

We're down to three, four, five, people.

MR. HENRY:

Yes. If you guys just want to come to the mic, I think that will be a little quicker.

And if you could, please, state your name for the record to make sure the court reporter gets it.

STATEMENT BY CATHY O'HAIRE

MS. O'HAIRE:

My name is Cathy O'Haire. I live in Bush, Louisiana. I've been a resident of St. Tammany for 30 years, and I agree with everything that the mayor of Abita said a couple of hours ago to everyone. And the thing I wanted to stress was, this is a community, and a few years ago when St. Tammany was rezoned, Sidney, who is in charge of the planning for St. Tammany, met with the Poitevent family. When he met with them at that time, they asked for A-3 which is one acre for the 60,000 acres they own, not for a drilling site, not for a fracing site.

And because this is community -- I didn't bring my glasses up, this is bad -- but what I just want to ask the DNR -- and thank you for being here -- and Corps pulled Helis's permit once on this site, and they had to redo the plans.

As a citizen of St. Tammany, I want to ask you again, please, pull this permit. If the Corps can do it, please, do it for us.

The last thing is, there are places you can't live anymore because of fracing, when they say fracing is safe. Those areas seem to be Dish, Texas. No one can live there because their houses will blow up due to the fracing. There the Dimock -- they pronounce it Demick, but it is spelled Dimock, Pennsylvania. There is Pavilion, Wyoming. These are all the places that have problems with fracing.

So thank you very much. I'd appreciate if you would consider this, please. Thank you.

STATEMENT BY DARRYL MALEK-WILEY

MR. MALEK-WILEY:

Good morning. My name is Darryl Malek-Wiley. I'm a -- representing the Sierra Club here tonight. And I want to be very clear, the Sierra Club is 100 percent opposed to this permit. We will take any and all legal means to defeat this permit and feel that

DNR should stop the whole -- I know it doesn't -- that you deny the permit.

I've heard the people -- different folks who have commented on the Louisiana Constitution Article IX, but I think I'd like to quote from Article I of the Declaration of Rights. Government originates from the people and it is founded on their will alone, and it is interest -- it's too early in the morning or too late at night -- instituted to protect the rights of the individuals and for the good of the whole. It doesn't state for the good of oil and gas in Louisiana. It says for the good of the whole, and I think that's what we're talking about is, DNR needs to look at this permit and the fracing -- proposed fracing operation and the impact it will have on all of St. Tammany.

Not only should DNR look at its Constitutional duties, but it also should look at its duties under the Save Ourselves versus the Louisiana Environmental Control Commission, and also the ruling -- and I'll submit these all in my comments -- the recent ruling by Judge Comeaux, over in jurisdiction 19 (sic), where he ruled in favor of the Lake Peigneur case stating that the Agency is required before granting approval of a proposed action affecting the environment to

determine that adverse environmental impacts have been minimized or avoided as much as possible, consistent with the public welfare. So I think there is clear constitutional and case law that will back up any action taken by the Department in denying this permit.

There are issues also related to the ability of the Department of Environmental Quality -- DNR to operate as an independent agency. We've seen through these years that this agency is unfairly biased, in my opinion, the opinion of Sierra Club, in favor of industry. We've seen that in -- documented in the Louisiana Auditor's report. We also have seen it in the reporting by the Baton Rouge Advocate, talking about the Bayou Corne sinkhole where the Department, DNR, knew in January of 2010, that there were problems and had been talking with Texas Brine about problems, but for 19 months, they kept that information away from the public and away from the public agencies that were there to protect the environment. So I think that the Agency has some real credibility issues with a number of things.

I've heard this -- Helis Oil talk about money to the parish, but I think that one thing that has not been brought up is the 1994 passage of the severance tax exemption on horizontal drilling in Louisiana,

that means that the severance tax is not being collected because, in '94, we thought that this was the new technology, and, therefore, we needed to give them a break. I think it's time to take that money back.

I would like the Department, DNR, to grant additional time for public comments. There were documents submitted tonight by the applicant which I doubt are yet on the website. They will probably not be on the website before the 19th of November deadline for public comments, and in fairness to the public, we should have a right to review these documents, comment on those documents, before any decision is made.

And I think that one of the things that has been brought up time and time again is in a recent article in Government (phonetic) magazine cites that the local government of St. Tammany Parish are going to be the big losers in this whole operation because of the impact of truck traffic on the roads and the impact of lack of severance tax.

So, in closing, the Sierra Club wishes that DNR would deny this permit and extend the comment period for another 30 days so the public can really look at the new information submitted tonight.

Thank you very much.

STATEMENT BY MIKE STAGG

MR. STAGG:

My name is Mike Stagg. I'm from Lafayette. I used to live in St. Tammany.

And I want to address a couple of misconceptions that were spread tonight. They've been spread over the whole course of this permit, and that is about the revenue, one of the engineers said tonight, the business council people said it tonight. There is a severance tax exemption on minerals extracted using horizontal drilling. All fracing minerals are extracted using horizontal drilling. Louisiana does not collect severance taxes on the first two years of a well or until it is paid for because of this severance tax exemption which has been in place since 1994.

That means that on the Haynesville trend, according to Legislative Auditor and according the Senate Finance -- a budget specialist in the Senate, Louisiana lost out on hundreds of millions of dollars on severance tax revenue in the Haynesville trend. Again, this is because this was supposed to be an experimental technology. The Haynesville trend was the most productive natural gas field in the country. We know that the experiment is over. We need to end

that exemption.

The fracing is not your father's oil and gas industry, but this your father's DNR. This is your father's Office of Conservation. Because, repeatedly, this office has viewed that industry as their partners, and the people as the interlopers and intruders, that came out of the hearing in Baton Rouge over the wetlands permit where it was said it was very unusual to have citizens participate in a hearing. It is very unusual to have citizens to participate in a hearing like we did tonight. You ran most of them off before you gave them a chance to talk, but that is kind of like par for the course.

Again, I want to point out where this comes from. The Legislative Auditor's report from November 27, 2013, points out that the Department of Natural Resources was given authority to collect severance taxes in Louisiana for a two-year period. It was moved from the Department of Revenue to the Department of Natural Resources. According the Legislative Auditor, severance tax collections fell 99.8 percent. You just didn't collect them. You just did not collect them.

The severance tax is the Constitutional expression of our common claim on those resources.

When you exempt the severance tax or when you just don't collect it, you are cheating us, because every year we have had budget cuts that have affected higher education and healthcare. And according to the annual budget on tax exemptions that the Department of Revenue produces, severance tax exemptions alone, not just on horizontal drilling, but all severance tax exemptions, come out to $500 million a year that we are giving away. The worse part about it is, that is our interest we are giving away. So, when you don't collect severance taxes, you are -- first of all, you are denying us our right to our money, and, second, you are leaving it with that industry so that they get to keep it. Do they even tell the property owners that they didn't pay their severance taxes? I'm sure they charged them for it.

So, as to Bayou Corne, the story is right here, August 10, 2012 -- you didn't write it, but you were still with the *Advocate*. August 10, 2012, local officials in Assumption Parish have said that they were not told about the problems with the Texas Brine storage cavern when Office of Conservation knew about it for 18 months. The Department of Natural Resources knew about it for 18 months. Whose side are you on? Your record says you are on someone else's side.

This might be a dog and pony show here, but I think you need to live up to a higher standard. The Constitution has been quoted here, but there is more to this than just the Constitution. You have a moral obligation to the people of this state to stand up and protect it for a change.

This is not your father's oil and gas industry. You need to prove to us that this is not your father's DNR.

Thank you.

STATEMENT BY CHARLES PEARSON

MR. PEARSON:

My name is Charles Pearson. I've lived in Louisiana -- well, I've lived in St. Tammany Parish my entire life. I'm at least maybe a six-generation resident of St. Tammany Parish, as far as my family goes back, it is as far as I can trace it, and we've all lived in the Lacombe and Mandeville area.

And over the years, I have noticed this huge influx of people that all come to St. Tammany Parish because of all the freedoms that you can do what you want to with your own land. You can build. You don't have people next to you. I know there are pristine areas, and there is freedom everywhere. And over the years, every time people from other areas move in,

they move in, and the first thing they want to do is close the door behind them. They want to build on their property and then immediately tell me what I can and cannot do with my property. The whole concept of ownership of something, it's yours. You can do what you want to with your property.

Helis Oil is wanting to drill on private property. It is not public property. It is private property. It is owned by someone. Our Constitution allows us life, liberty, and pursuit of happiness, and at what point do we start infringing on someone's right to do what they want to with their own land, you know.

There is a simple -- very, very simple solution that everybody here who is opposed to fracing and opposed to this could just do, and this would not be an issue. You wouldn't even have to make a decision, and that is, it is private property, okay. Private property is bought and sold. If you really don't want fracing, if you really don't want it, why don't you just buy the property, and then it's done? It's done. Raise enough money, buy the property, make it worth their while. If -- the property owner is allowing the drilling because they want to make a profit. They want to pursue profit. Buy it and then don't allow

the drilling, but don't tell someone else what they can or cannot do with their own property. If it was up to me, I would love to put one of these things in my front yard, that would great. I have no problem living next to it.

Next, the gentleman over here said that St. Tammany pulls 22.7 millions of gallons of water every day out of the aquifer, 22.7 million every day. Helis claims that they will use 800,000 for -- gallons of water for their initial vertical drilling, and then up to five million for the horizontal, that's 5.8 million, okay, that's, what, a little less than a quarter of what St. Tammany Parish pulls out of that aquifer every day? So you're speaking of -- you're just a few hours, five or six hours worth of water that it would take. It's really not that much. It really isn't.

And, you know, I appreciate you all giving me the time to speak, and it's nice to have people that disagree with me and argue their points, and it's nice that we can all respectfully get together and do this, but we still disagree.

And I don't see any reason, even if I was opposed to it, if Helis follows all the rules that they are supposed to apply for the permit, why you could deny

them. There are preset rules, they follow them, they apply for the permit. I think you should give it to them.

Thank you.

MR. HENRY:

Is there anyone else present who would like to speak?

(No response.)

All right. Those are all the comment cards that we receive that still -- people are still present to speak.

On behalf of the Commissioner and the Office of Conservation, I'd like to thank all of our speakers.

UNIDENTIFIED SPEAKER:

Do we get closing statements (inaudible)?

MR. HENRY:

I believe you guys actually already did your closing statements, correct?

MS. JORDAN:

(Inaudible.)

MR. HENRY:

Okay. Sure, sure.

STATEMENT BY RICHARD REVELS

MR. REVELS:

Once again, Rick Revels, for Helis. I used to think being the applicant and going last was an advantage, but I've got additional information. I'll have to reconsider, possibly.

Look, we were here -- the primary purpose -- I'm glad everybody came. I'm glad they got to participate, although it did drag out a long period of time, but the primary purpose of this hearing, the reason it was called, was to consider whether the drilling permit application that has been submitted by Helis actually and fully satisfies all the applicable regulatory requirements of the Office of Conservation. We think that Helis has clearly demonstrated that the permit application does, in fact, do that, and it should be issued.

We understand that people may have problems or concerns about what are the requirements and how are those requirements being administered, that is not our task or burden to convince everybody of the rightness of that, nor whether the economic benefits of the proposed operations outweigh any possible detriments.

We do point out to you that Tangipahoa Parish just recently issued one lease on a School Board property, so the School Board is getting the money, over $1 million, just for the bonus. So, I mean, some

people are seeing the benefit to that.

You've heard earlier, some business witnesses from Northshore Business Council and Greater New Orleans, Inc. They think, you know, that this is an economically beneficial project.

But, again, everybody can disagree, and other people can support the no-drilling agenda that our opponents have set forth. We understand that. This is America, and you get to make up your mind.

What is not in dispute, however, is that Helis has landowners who have granted leases and they want development, and they also think that oil and gas development could be compatible with other land uses that they also want to see done, and they've testified to that effect tonight.

We're not drilling -- Helis is not drilling within the Town of Abita Springs. They are not drilling on any lands of our opponent.

An operator, even if they get a drilling permit, that is just one thing. They are not going to be drilling without mineral leases from the mineral owners of the drill site tract, so -- the mineral owners are not required to lease. To me, if you don't want development and you own property, the best way to prevent any development is just simply not to lease.

As the prior speaker indicated, and I'm sure this is true, I'm sure private property rights are treasured just as much by St. Tammany residents as in other areas of the state, but here, the landowners do want that development, and it seems like, in general, that a property owner could exercise whatever use of his property that he sees fit, subject to reasonable exercise of police power. I would submit to you that a drilling ban in the whole parish that is not reasonable.

Helis has tried to give you all the facts, the very detailed facts, actually, and tried to be transparent in this process, and they are prepared to continue to respond to concerns, questions, et cetera, as the process goes forward.

We recognize that drilling in this parish, at least recently, is not a common occurrence, and anything new and different can be unsettling to people, but we do believe that the fears of the proposed operation are overblown by many of the comments that we have heard tonight.

We do thank you for the opportunity to present directly to you the facts related to the project. We trust over time, as long as Helis does get its permit and is conducting its operations in a responsible and

respectful manner, just as it has promised to do, the concerns that some citizens now have will abate.

We do thank you for your consideration.

MR. HENRY:

On behalf of the Commissioner and Office of Conservation, I'd like to thank all of the speakers and all of you for attending today.

Let me again state that the comment period for this docket is scheduled to close at 5:00 p.m., on November 19, 2014. If you would like to submit written comments, please, have them in by that time.

Once again, I'd like to thank Superintendent Trey Folse, Dr. Principal Wagner, Assistant Principal Alleman, and all the others here at Lakeshore High who assisted the Office of Conservation in holding this hearing.

I'd also like to thank Mayor Lemon for letting us borrow his audio equipment and for all the assistance that he provided, and for the folks that helped out at the front table, they were a big help to us tonight.

This hearing is adjourned.

Thank you.

CERTIFICATE

I, MICHELLE S. ABADIE, Certified Court Reporter in and for the State of Louisiana, as the officer before whom this testimony was taken, do hereby certify that after being sworn before Daniel Henry, Staff Attorney with the Office of Conservation, on November 12, 2014, at Lakeshore High School, Mandeville, Louisiana, that this testimony in Docket ENG 14-0626 was reported by me in the stenomask reporting method, was prepared and transcribed by me or under my personal direction and supervision; that the foregoing pages, numbered 1 through 383, inclusive, is a true and correct transcript to the best of my ability and understanding; that I am not related to counsel or to the parties herein, nor am I otherwise interested in the outcome of this proceeding.

MICHELLE S. ABADIE, CCR #24032
CERTIFIED COURT REPORTER

CERTIFICATE

I, MICHELLE S. ABADIE, Certified Court Reporter in and for the State of Louisiana, as the officer before whom this testimony was taken, do hereby certify that after being sworn before Daniel Henry, Staff Attorney with the Office of Conservation, on November 12, 2014, at Lakeshore High School, Mandeville, Louisiana, that this testimony in Docket ENG 14-0626 was reported by me in the stenomask reporting method, was prepared and transcribed by me or under my personal direction and supervision; that the foregoing pages, numbered 1 through 383, inclusive, is a true and correct transcript to the best of my ability and understanding; that I am not related to counsel or to the parties herein, nor am I otherwise interested in the outcome of this proceeding.

MICHELLE S. ABADIE, CCR #24032
CERTIFIED COURT REPORTER