



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OFFICE OF OIL, GAS, AND MINERALS

APPLICATION FOR PERMIT TO:
☒ DRILL ☐ DEEPEN ☐ CONVERT
AND OPERATE A WELLBy authority of Part 615 or Part 625 of Act 451 PA 1994, as amended.
Non-submission and/or falsification of this information
may result in fines and/or imprisonment.1a. Part 615 Supervisor of Wells
☒ Oil and Gas
☐ Brine Disposal
☐ Hydrocarbon Storage
☐ Injection for Secondary
Recovery1b. Part 625 Mineral Wells
☐ Waste Disposal
☐ Brine Production
☐ Processed brine disposal
☐ Storage
☐ Test, fee sched. on rev.1c. Fee enclosed
☒ Yes
☐ No, revision of
application
☐ No, leg of horz
drainhole

2. List all previous permit numbers

NA

3. Fed. ID. No. (do not use SSN)
73-1577174

4. Conformance bond

☒ Blanket ☐ Single well5. ☐ Attached☒ On file6. Bond number
100753026-6227. Bond amount
\$250,000.00

8. Applicant (name of permittee as bonded)

Devon Energy Production Company, L.P.

9. Address

20 N. Broadway
Oklahoma City, OK 73102

Phone

405-552-8196

I authorize DEQ 4 additional days
to process this application.☒ Yes ☐ No

10. Lease or well name (be as brief as possible)

Schick

Well number

1-7HD

11. Surface owner

John L. Schick and Louise G. Schick, and Thomas J. Schick

12. Surface location

NE 1/4 of SW 1/4 of NE 1/4 of Sec 7 T 19N R 3W

Township
HamiltonCounty
Clare

13. If directional, bottom hole location

SW 1/4 of SW 1/4 of SW 1/4 of Sec 7 T 19N R 3W

Township
HamiltonCounty
Clare

14. The surface location for this well is

1583 feet from nearest (N/S) North section line AND 1700 feet from nearest (E/W) East section line

15. Is this a directional well? ☐ No ☒ Yes If yes, complete line 15. The bottom hole location for this well is

331 feet from nearest (N/S) South section line AND 331 feet from nearest (E/W) West section line

16. The bottom hole location (whether straight or directional) of this well is

331 feet from nearest (N/S) South drilling unit line AND 331 feet from nearest (E/W) South drilling unit line

17. Kind of tools

☒ Rotary ☐ Cable ☐ Combination

18. Is sour oil or gas expected?

☐ No ☒ Yes ☒ H₂S Cont. plan enclosed

19. Base of lowest known fresh water aquifer

Formation Glacial Drift Depth 550'

20. Intended total depth

MD 13388' TVD 8990'

21. Formation at total depth

A-1 Carbonate

22. Producing/injection formation(s)

A-1 Carbonate

23. Objective pool, field, or project
Exploratory

24. PROPOSED DRILLING, CASING AND CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT			MUD	
Depth (MD)	Geol. Formation	Bit Dia.	O.D. Size	Wt/Ft Grade	Condition	Depth (MD)	Sacks	T.O.C.	W.O.C.	Wt. Vls.
100'	Glacial Drift	NA	30"	208.5# 0.65" wall	(New)	100'	NA	NA		NA
750'	Michigan	26"	20"	94# J55	(New)	750'	NA	Surf	12hr	9.0 80
1725'	Below Marshal	17.5"	13.375"	54.5# J55	(New)	1725'	NA	Surf	12hr	11.6 50
6200'	Bass Island	12.25"	9.625"	40# L80HC	(New)	6200'	NA	3800'	12hr	9.3 45
9400'	A-1 Carb	8.75"	7"	32# L80HC	(New)	9400'	580	5650'	12hr	13.0 50
13388'	A-1 Carb	6"	4.5"	15.1# T95	(New)	13388'	480	8000'	NA	15.5 50

25. DETAIL CEMENTING PROGRAM. IDENTIFY ALL CEMENT CLASSES, ADDITIVES, AND VOLUMES (IN CU. FT.) FOR EACH CASING STRING.

Surface NA

Intermediate 50:50 Poz:H+10% Salt + 2% Gel+ 0.1%Sec-10+0.5% Super FL-300 500CF Class H+0.6% Super FL-300 2400

Production/Injection 50:50 Poz:H + 18% Salt + 1.1% FL-350 + 0.25% defoamer 550CF

26. Send correspondence and permit to

Name Worth Surveying

E-mail worthsurveying@sbcglobal.net

Address P.O. Box 4003, Jackson, MI 49204

Phone 517-788-9806

CERTIFICATION "I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

27. Application prepared by (print or type)

Thomas F. Worth

Phone

517-788-9806

28. Signature

Date

Feb. 8, 2012

Enclose permit fee of \$300 for all Part 615 wells; \$2,500 for a Part 625 waste disposal well; or \$500 for a brine production, processed brine disposal, or storage well. Make checks payable to State of Michigan.

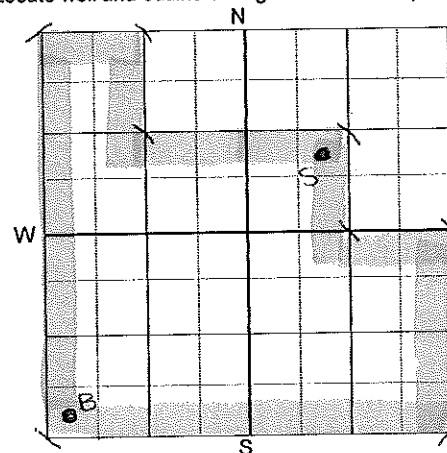
DEQ Cashier use only.

Office of Oil, Gas, and Minerals Use Only

Permit number	API number	Date issued	Owner number
60526	21-035-60525-01	3-15-12	6495

EQP 7200-1 (rev. 1/2012) SEE INSTRUCTIONS FOR MAILING ON REVERSE

Locate well and outline drilling unit on section plat



RECEIVED

FEB 15 2012

OFFICE OF OIL, GAS, AND MINERALS
14005 45002 9100

APR 2012 REL

APPLICATION FOR PERMIT TO: DRILL ☐ DEEPEN ☐ CONVERT AND OPERATE A WELL

Authority of Part 615 or Part 625 of Act 451 PA 1994, as amended.
Non-submission and/or falsification of this information
may result in fines and/or imprisonment.

1a. Part 615 Supervisor of Wells
☒ Oil and Gas
☐ Brine Disposal
☐ Hydrocarbon Storage
☐ Injection for Secondary Recovery

1b. Part 625 Mineral Wells
☐ Waste Disposal
☐ Brine Production
☐ Processed brine disposal
☐ Storage
☐ Test, fee sched. on rev.

1c. Fee enclosed
☒ Yes
☐ No, revision of application
☐ No, leg of horiz drainhole

List all previous permit numbers

3. Fed. ID. No. (do not use SSN)
73-1577174

Locate well and outline drilling unit on section plat

NA

4. Conformance bond
☒ Blanket ☐ Single well
 5. ☐ Attached ☒ On file
 6. Bond number 100753026-622
 7. Bond amount \$250,000.00

8. Applicant (name of permittee as bonded)

Devon Energy Production Company, L.P.

9. Address

20 N. Broadway
Oklahoma City, OK 73102

Phone

405-552-8196

I authorize DEQ 4 additional days
to process this application.

☒ Yes ☐ No

10. Lease or well name (be as brief as possible)

Schick

Well number

1-7HD

11. Surface owner

John L. Schick and Louise G. Schick, and Thomas J. Schick

12. Surface location

NE 1/4 of SW 1/4 of NE 1/4 of Sec 7 T 19N R 3W

Township
Hamilton

County
Clare

13. If directional, bottom hole location

SW 1/4 of SW 1/4 of SW 1/4 of Sec 7 T 19N R 3W

Township
Hamilton

County
Clare

14. The surface location for this well is

1583 feet from nearest (N/S) North section line AND 1700 feet from nearest (E/W) East section line

15. Is this a directional well? ☐ No ☒ Yes If yes, complete line 15. The bottom hole location for this well is

331 feet from nearest (N/S) South section line AND 331 feet from nearest (E/W) West section line

16. The bottom hole location (whether straight or directional) of this well is

331 feet from nearest (N/S) South drilling unit line AND 331 feet from nearest (E/W) South drilling unit line

17. Kind of tools

☒ Rotary ☐ Cable ☐ Combination

18. Is sour oil or gas expected?

☐ No ☒ Yes ☒ H₂S Cont. plan enclosed

19. Base of lowest known fresh water aquifer

Formation Glacial Drift Depth 550'

20. Intended total depth

MD 13388' TVD 8990'

21. Formation at total depth

A-1 Carbonate

22. Producing/injection formation(s)

A-1 Carbonate

23. Objective pool, field, or project

Exploratory

24. PROPOSED DRILLING, CASING AND CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT			MUD	
Depth (MD)	Geol. Formation	Bit Dia.	O.D. Size	Wt/Ft	Grade Condition	Depth (MD)	Sacks	T.O.C.	W.O.C.	Wt. Vis.
100'	Glacial Drift	NA	30"	208.5#	0.65" wall (New)	100'	NA	NA		NA
750'	Michigan	26"	20"	94#	J55 (New)	750'	NA	Surf	12hr	9.0 80
1725'	Below Marshal	17.5"	13.375"	54.5#	J55 (New)	1725'	NA	Surf	12hr	11.6 50
6200'	Bass Island	12.25"	9.625"	40#	L80HC (New)	6200'	NA	3800'	12hr	9.3 45
9400'	A-1 Carb	8.75"	7"	32#	L80HC (New)	9400'	580	5650'	12hr	13.0 50
13388	A-1 Carb	6"	4.5"	15.1#	T95 (New)	13388'	480	8000'	NA	15.5 50

25. DETAIL CEMENTING PROGRAM. IDENTIFY ALL CEMENT CLASSES, ADDITIVES, AND VOLUMES (IN CU. FT.) FOR EACH CASING STRING.

Surface NA

Intermediate 50:50 Poz H+10% Salt + 2% Gel+ 0.1% Sec-10+0.5% Super FL-300 500CF Class H+0.6% Super FL-300 270CF

Production/Injection 50:50 Poz H + 18% Salt + 1.1% FL-350 + 0.25% defoamer 550CF

26. Send correspondence and permit to

Name Worth Surveying

E-mail worthsurveying@sbcglobal.net

Address P.O. Box 4003, Jackson, MI 49204

Phone 517-788-9806

CERTIFICATION "I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

27. Application prepared by (print or type)

Thomas F. Worth

Phone

517-788-9806

28. Signature

Date

Feb. 8, 2012

Office of Oil, Gas, and Minerals Use Only

Permit number API number Date issued Owner number
6495

Enclose permit fee of \$300 for all Part 615 wells; \$2,500 for a Part 625 waste disposal well; or \$500 for a brine production, processed brine disposal, or storage well. Make checks payable to State of Michigan.

DEQ Cashier use only.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OFFICE OF OIL, GAS, AND MINERALS

APPLICATION FOR PERMIT TO:

☒ DRILL ☐ DEEPEN ☐ CONVERT
AND OPERATE A WELLBy authority of Part 615 or Part 625 of Act 451 PA 1994, as amended.
Non-submission and/or falsification of this information
may result in fines and/or imprisonment.

1a. Part 615 Supervisor of Wells

- ☒
- Oil and Gas
-
- ☐
- Brine Disposal
-
- ☐
- Hydrocarbon Storage
-
- ☐
- Injection for Secondary
-
- Recovery

1b. Part 625 Mineral Wells

- ☐
- Waste Disposal
-
- ☐
- Brine Production
-
- ☐
- Processed brine disposal
-
- ☐
- Storage
-
- ☐
- Test, fee sched. on rev.

1c. Fee enclosed

- ☐
- Yes
-
- ☒
- No, revision of
-
- application
-
- ☐
- No, leg of horz
-
- drainhole

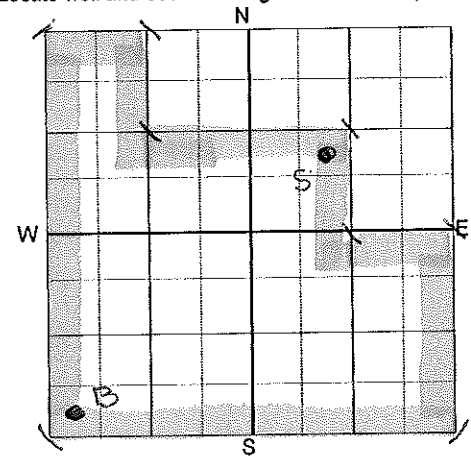
2. List all previous permit numbers

NA

3. Fed. ID. No. (do not use SSN)

73-1577174

Locate well and outline drilling unit on section plat



4. Conformance bond

☒ Blanket ☐ Single well5. ☐ Attached☒ On file

6. Bond number

100753026-622

7. Bond amount

\$250,000.00

8. Applicant (name of permittee as bonded)

Devon Energy Production Company, L.P.

9. Address

20 N. Broadway
Oklahoma City, OK 73102

Phone

405-552-8196

I authorize DEQ 4 additional days
to process this application.☒ Yes ☐ No

10. Lease or well name (be as brief as possible)

Schick

Well number

1-7 HD

11. Surface owner

John L. Schick and Louise G. Schick, and Thomas J. Schick

12. Surface location

NE 1/4 of SW 1/4 of NE 1/4 of Sec 7 T 19N R 3W

Township
HamiltonCounty
Clare

13. If directional, bottom hole location

SW 1/4 of SW 1/4 of SW 1/4 of Sec 7 T 19N R 3W

Township
HamiltonCounty
Clare

14. The surface location for this well is

1583 feet from nearest (N/S) North section line AND 1700 feet from nearest (E/W) East section line

15. Is this a directional well? ☐ No ☒ Yes If yes, complete line 15. The bottom hole location for this well is

331 feet from nearest (N/S) South section line AND 331 feet from nearest (E/W) West section line

16. The bottom hole location (whether straight or directional) of this well is

331 feet from nearest (N/S) South drilling unit line AND 331 feet from nearest (E/W) West drilling unit line

17. Kind of tools

☒ Rotary ☐ Cable ☐ Combination

18. Is sour oil or gas expected?

☐ No ☒ Yes ☒ H₂S Cont. plan enclosed

19. Base of lowest known fresh water aquifer

Formation Glacial Drift Depth 550'

20. Intended total depth

MD 13388' TVD 8990'

21. Formation at total depth

A-1 Carbonate

22. Producing/injection formation(s)

A-1 Carbonate

23. Objective pool, field, or project

Exploratory

24. PROPOSED DRILLING, CASING AND CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT			MUD	
Depth (MD)	Geol. Formation	Bit Dia.	O.D. Size	Wt/Ft	Grade Condition	Depth (MD)	Sacks	T.O.C.	W.O.C	Wt. Vis.
100'	Glacial Drift	NA	30"	208.5#	0.65" wall (New)	100'	NA	NA		NA
750'	Michigan	26"	20"	94#	J55 (New)	750'	NA	Surf	18hr	9.0 80
1725'	Below Marshal	17.5"	13.375"	54.5#	J55 (New)	1725'	NA	Surf	18hr	11.6 50
6200'	Bass Island	12.25"	9.625"	40#	L80HC (New)	6200'	NA	3800'	12hr	9.3 45
9400'	A-1 Carb	8.75"	7"	32#	L80HC (New)	9400'	580	5650'	12hr	13.0 50
13388'	A-1 Carb	6"	4.5"	15.1#	T95 (New)	13388'	480	8000'	NA	15.5 50

25. DETAIL CEMENTING PROGRAM. IDENTIFY ALL CEMENT CLASSES, ADDITIVES, AND VOLUMES (IN CU. FT.) FOR EACH CASING STRING.

Surface NA

Intermediate 50:50 Poz:H+10% Salt + 2% Gel+ 0.1%Sec-10+0.5% Super FL-300 500CF Class H+0.6% Super FL-300 270CF

Production/Injection 50:50 PozH + 18% Salt + 1.1% FL-350 + 0.25% defoamer 550CF

26. Send correspondence and permit to

Name Worth Surveying

E-mail worthsurveying@sbcglobal.net

Address P.O. Box 4003, Jackson, MI 49204

Phone 517-788-9806

CERTIFICATION "I state that I am authorized by said applicant. This application was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

27. Application prepared by (print or type)

Thomas F. Worth/Greg Sibley

Phone

713-265-6518

28. Signature

Date

March 1, 2012

Enclose permit fee of \$300 for all Part 615 wells; \$2,500 for a Part 625 waste disposal well; or \$500 for a brine production, processed brine disposal, or storage well. Make checks payable to State of Michigan.

DEQ Cashier use only.

RECEIVED

MAR 14 2012

DEQ-RMD
Office of Oil, Gas & Minerals

Permit number	API number	Date issued	Owner number
60526	21-03560526	3-15-12	60495



State of Michigan
Department of Environmental Quality
Geological and Land Management Division
P.O. Box 30256
Lansing, MI 48909-7756

PERMIT TO

☒ DRILL AND OPERATE ☐ DEEPEN AND OPERATE

GRANTED UNDER THE PROVISIONS OF
Part 615 Supervisor of Wells, Act 451, PA 1994, as amended

Violation of and/or non-compliance with the provisions of this act or its rules, instructions or orders of the supervisor, or these permit conditions may result in penalties. This permit includes as requirements all the operations and methods proposed by the applicant in the application to drill, unless rejected or altered by the DEQ. This permit is also subject to the general and specific conditions identified on this page and/or attached to it. Initiation of any work under this permit confirms the permittee's acceptance and agreement to comply with its terms and conditions.

PERMIT NO. 60526	ISSUE DATE 3/15/2012	EXPIRATION DATE 3/15/2014
WELL NAME AND NUMBER SCHICK 1-7 HD1		
FORMATION AT TOTAL DEPTH A-1 CARBONATE	COMPLETION FORMATION A-1 CARBONATE	
PERMITTED TOTAL DEPTH (MEASURED) 13388 ft.	PERMITTED TOTAL DEPTH (TVD) 8990 ft.	
TYPE OF PERMIT Oil Well	API NUMBER 21-035-60525-01-00	
ISSUED TO: DEVON ENERGY PRODUCTION CO LP 20 NORTH BROADWAY OKLAHOMA CITY, OK 73102		

LOCATION AND FOOTAGES: SHL: NE SW NE, SEC 7, 19N 3W, HAMILTON TWP, CLARE CO.
1583 FT. FROM N AND 1700 FT. FROM E SECTION LINE.

BHL: SW SW SW, SEC 7, 19N 3W, HAMILTON TWP, CLARE CO.
331 FT. FROM S AND 331 FT. FROM W SECTION LINE.
331 FT. FROM S AND 331 FT. FROM W DRILLING UNIT LINE.

CASING AND SEALING REQUIREMENTS

HOLE DEPTH	HOLE DIA.	CASING O.D.	WT./FT.	GRADE	CONDITION	DEPTH (M.D.)	SACKS CMT	CEMENT TOP	MUD WT.
100'	Driven	30"	209	COND	EXT	100'	DRIVEN		
750'	26"	20"	94	J-55	EXT	750'	1860	SURFACE	9.0
1725'	17 1/2"	13 3/4"	54.5	J-55	EXT	1725'	1540	SURFACE	11.6
6200'	12 1/4"	9 5/8"	40	L-80	EXT	6200'	590	3800	9.3
9400'	8 3/4"	7"	32	L-80	NEW	9400'	580	5650	13.0
13388'	6"	4 1/2"	15.1	SS-95	NEW	13388'	480	8000	15.5

SPECIFIC PERMIT CONDITIONS

1. This well shall be drilled and operated in compliance with the Hydrogen Sulfide Rules (R 324.1101 to R 324.1129). NOTIFY LOCAL EMERGENCY PREPAREDNESS COORDINATOR OF WELL LOCATION, H₂S POTENTIAL, and CONTINGENCY PLAN AVAILABILITY prior to moving in rig.
2. A temporary water well for onsite freshwater is allowed. It shall not be used for drinking water and shall be plugged upon well completion.
3. Area Geologist - Wayne Todd 989-894-6231 - shall be notified prior to excavation, pit liner installation and pit encapsulation. Place pit in cut portion of the pad.
4. Pursuant to RULE 407(7)(b), drilling fluids generated or utilized while drilling below the base of the Detroit River Anhydrite SHALL NOT be placed in the lined pit. Cuttings and the solid fraction of drilling muds generated or utilized while drilling below the base of the Detroit River Anhydrite may be placed in the lined reserve pit if they DO NOT contain free liquids as determined by the US EPA, paint filter test, method 9095, September 1986 edition. Drilling muds and cuttings which contain weighting or lost circulation materials, and which cannot reasonably be treated to eliminate free liquids may be placed in the reserve pit if approved by the authorized representative of the supervisor.
5. Salt cuttings are to be dissolved and removed from the mud system for proper disposal.
6. Well is being drilled in known area of high pressure gas in the A-1 Carbonate. Hematite mud must be on standby sthroughout the horizontal portion of drilling. It may be necessary to install vacuum de-gassers on the mud pit if hematite mud is required.
7. Cement bond log is required on the 7" and 4-1/2" casing.
8. Based upon the submitted documents within this application, this permit is issued subject to the provisions outlined in Supervisor of Wells Instruction 1-2011 for High Volume Hydraulic Fracturing Well Completions.
9. Copies of all Electric Logs run on this well shall be submitted to the Lansing Office of Oil, Gas, and Minerals on paper and electronic format. Log ASCII Standard (LAS) and Tag Image File Format (TIF) files shall be submitted on a compact disc. These files should be named using the well's permit number with the log type name.

GENERAL PERMIT CONDITIONS

1. The permittee is required to give notice to public utilities in accordance with Act 53, PA 1974, M.C.L. 460.701-460.718.
2. This permit does not convey property rights in either real estate or material, neither does it authorize any injury to any public or personal property.
3. This permit does not preclude the necessity of obtaining other local, state, or federal permits which may apply to the drilling or operation of this well.
4. All trash and garbage shall be removed from the drill site at the completion of drilling, no garbage may be buried on site.
5. This permit allows a well containing hydrogen sulfide to be drilled and tested subject to the Hydrogen Sulfide Management Provisions of the Rules promulgated under Part 615, 1994 PA 451, as amended. Contact the Air Quality Division prior to producing a sour well to determine if an Air Quality Installation or Operation Permit is required.

OFFICE TO BE NOTIFIED PRIOR TO PREPARING LOCATION
AND PRIOR TO MOVING IN DRILLING EQUIPMENT
Saginaw Bay District (989) 894-6200

PERMIT ISSUED FOR THE SUPERVISOR OF WELLS BY



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OFFICE OF GEOLOGICAL SURVEY

TRANSMITTAL AND FIELD REVIEW FOR
PROPOSED WELL SITE

- ☒ Part 615 Supervisor of Wells, Act 451 PA 1994, as amended
☐ Part 625 Mineral Wells, Act 451 PA 1994, as amended

1a. Application number A120017	1b. Revision <input type="checkbox"/> Yes <input type="checkbox"/> No	1c. Coordinator Mark Snow	1d. District/Field Office SAGINAW BAY	1e. Date recvd 2/15/2012	1f. Date sent 2/17/2012	1g. Date due 3/16/2012
2a. Applicant DEVON ENERGY PRODUCTION COMPANY, LP						2b. Owner number 6495
3a. Well name and number SCHICK 1-7 HD1				3b. Previous permit numbers		
4a. Surface location NE 1/4 SW 1/4 NE 1/4 Sec. 7 T 19N R 3W				Township HAMILTON		County CLARE
4b. Footages 1583 feet from N line of Section				1700 feet from E line of Section		
5a. Surface Ownership <input checked="" type="checkbox"/> Private <input type="checkbox"/> State <input type="checkbox"/> Federal				5b. Mineral ownership <input checked="" type="checkbox"/> Private <input type="checkbox"/> State <input type="checkbox"/> Federal		
6a. <input type="checkbox"/> Within Gas Storage Field <input type="checkbox"/> Rule 413 applies Storage field name		6b. <input checked="" type="checkbox"/> Contains H ₂ S Part 11 rules apply Class I		6c. Well site area local zoning <input type="checkbox"/> Res, date _____ see R407(3), 505,506 <input checked="" type="checkbox"/> Other: Agricultural _____		
7. Endangered species, state leases, or additional information No natural features matches or state interests. Horizontal well for A1 Carbonate test. Well is under the boundaries of the hamilton gas storage field -so R 413 applies. possible large volume water withdrawal evaluation indicates Zone 'A' proceed.						

FIELD REVIEW AND RECOMMENDATIONS

8. Field review by: name and date Wayne Todd 02-29-2012	8a. Land use Recreational	8b. Cover type/density grass, and trees-pine and birch and poplar
9. Topography - (slope, % grade) 5%	10. Soil type and drainage, field tiles, etc. Montcalm no tiles	
11a. Area involved Drill pad 400'x400' Acres 3.67	11b. Is any area of the drill pad closer than 150' to a structure or water well? If yes, approval req. no	11c. Area involved Access road 210x20 Acres .97
12 Are soil erosion and sedimentation control measures for well site, access, flowline, and surface facilities adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
13. Buildings, public roads, pipelines and power lines, private water wells within 600 feet and public water wells within 800 or 2,000'. PN 17854 located 500' NE, and an old pipeline rund NE from the well Are all features shown on attached plat? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
14. Type, direction and distance to surface waters, waterways, wet lands, flood plains, natural rivers within 1320 feet, and Great Lakes shorelines within 1500 feet. Cranberry creek flows 880' NE of stake, pond locted 1301' SE. Are all features shown on attached plat? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
15. Nearby scenic, historical, recreational, environmentally sensitive, or critical dune areas, and threatened and endangered species within 1320 feet. none Are all features shown on attached plat? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
16. Is casing and sealing adequate? Conductor <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Surface <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intermediate <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Production <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Expected depth to base of fresh water 80' formation Drift		
17. Is Intermediate Casing Exception recommended? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA		
18. B.O.P. Program adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If certified tests required, give details.		

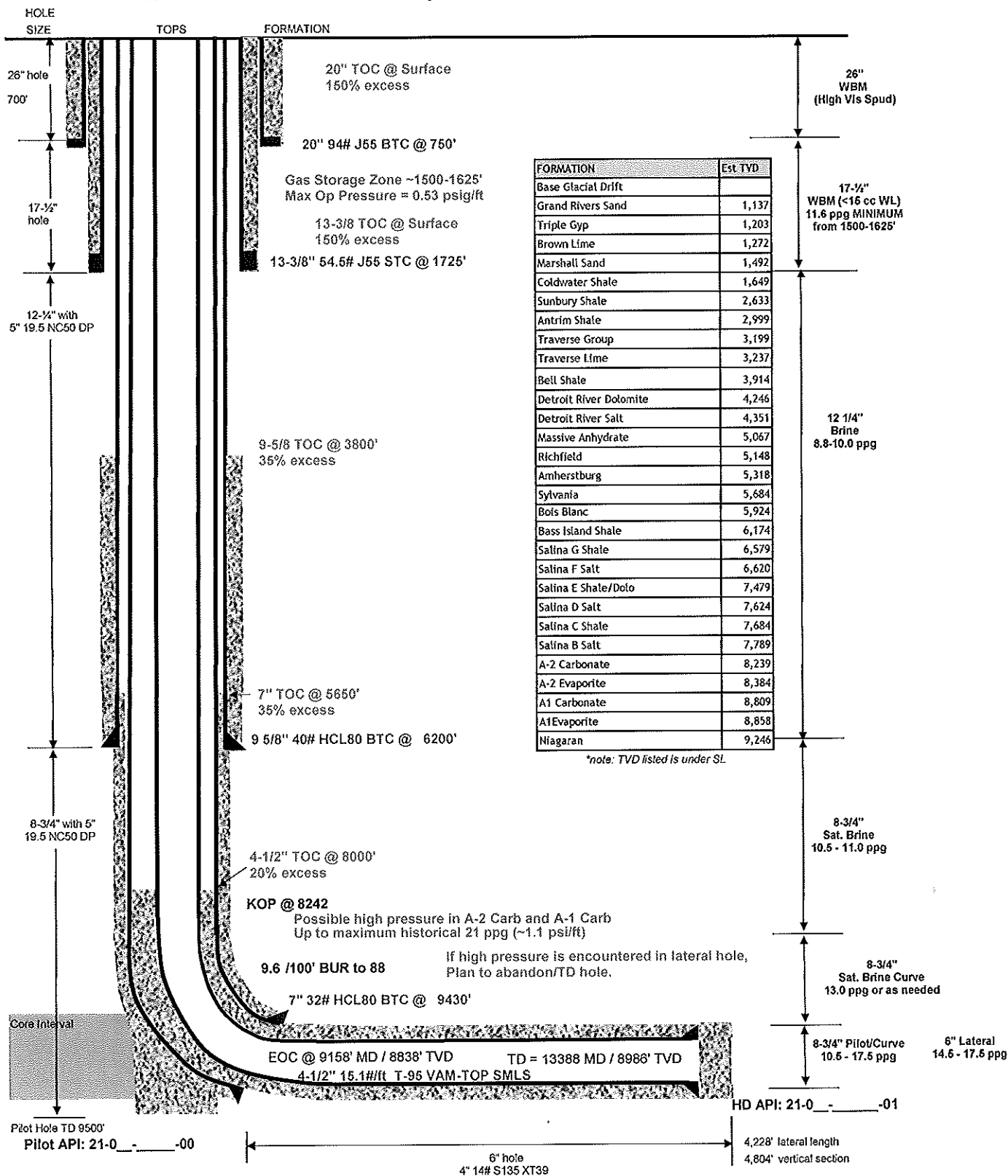
19. H2S, Part 11 rules apply? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Contingency plan reviewed and approved <input type="checkbox"/> Deficiencies in contingency plan, specify <input type="checkbox"/> Class IV, plan not required Well location complies with Rule 1106(1), (2), Isolation Distances <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Surface facility complies with Rule 506, Residential Areas <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Don't know, surface facility not identified.		
20. Source of freshwater: <input type="checkbox"/> Municipal source <input checked="" type="checkbox"/> Temporary well <input type="checkbox"/> Permanent well <input type="checkbox"/> Other, specify		
21. Drilling pit requirements <i>If no, specify disposition of mud and cuttings.</i> a. On-site in-ground pit allowed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
b. Specific requirements? <i>If yes, specify requirements, such as location of pit on drill pad. Pit on the cut portion of the pad</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
c. Remote pit will be used <i>If yes, identify location of remote pit.</i> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Are all surface owner approvals and surveys filed? <input type="checkbox"/> Yes <input type="checkbox"/> No		
d. Rule 407(3) applies <i>If yes, is in-ground pit exception requested by applicant AND recommended by GLMD</i> <input type="checkbox"/> Yes <input type="checkbox"/> No Zoned residential prior to 1/8/93? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
e. Rule 407(7)(b) (iv) applies <i>If yes, what is contingency for disposal of muds if they fail paint filter test? Seiler Tank Truck Service Inc.</i> Paint filter test required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
f. Salt cuttings to be (give details) <input type="checkbox"/> Removed for disposal <input checked="" type="checkbox"/> Dissolved & removed <input type="checkbox"/> None	Specify landfill Northern oaks Specify disposal well or waste hauler Seiler Tank Truck Service Inc.	g. Area Geologist notification prior to: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Pit excavation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Pit liner installation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Pit encapsulation
22. Is EIA for surface facilities included in application or described elsewhere? <i>If no and greater than 300' from wellhead, does feasible location for surface facilities exist?</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No, R504 (4) applies <input type="checkbox"/> No, less than 300' from well head		
23. DEQ and/or DNR comments Cement Bond log required on the 7" and the 4.5" casing, also Hematite mud must be on standby throughout the horizontal portion of the drilling. It may be necessary to install vacuum de-gassers on the mud pit if hematite mud is needed.		
24. Items continued and/or not covered above (attach additional sheets if needed)		
25. Revision included (describe if applicable)		
26. Representative of permittee contacted regarding additional requirements? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Name Dale Schellie Date 02-28-2012 Phone 405-641-5579		
27. Area geologist: recommend a permit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (provide reasons) <input type="checkbox"/> Needs corrections or additional information <input type="checkbox"/> Memo attached		
Wayne Todd Signature	Area Geologist Title	03-08-2012 Date
28. District Geologist: Recommend a permit: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (provide reasons) <input type="checkbox"/> Needs corrections or additional information <input type="checkbox"/> Memo attached This well is located in an area of known high pressure gas in the A-1 carbonate.		
Vicki Barnard Signature	District Supervisor Title	3-12-2012 Date



WELLBORE SCHEMATIC

WELL: Schick 1-7HD (AFE #202104)
FIELD: PC
CATEGORY: Horizontal Exploration Well - Oil & Gas
SHL: 1700' FEL & 1583' FNL of 7-19N-3W
BHL: 331' FSL & 331' FWL of 7-19N-3W
COUNTY: Clare STATE: MI
ELEVATION: 1102 GL API NO.: 21-0_____
1124 KB (22') Latitude: 44.0586
RIG: AES 20 Longitude: 84.714

Version 1 - 1/30/2012 - MM





SURVEY RECORD OF WELL LOCATION

This information is required by authority of Part 615
Supervisor of Wells, or Part 625 Mineral Wells, of Act 451
PA 1994, as amended, in order to obtain a drilling permit.

Applicant

Devon Energy Production Co., L.P.

Well name and number

Schick, 1-7 HD

1a. Surface location

NE 1/4 of SW 1/4 of NE 1/4 of section 7 T 19N R 3W

Township

Hamilton

County

Clare

1b. If this is a directional well, bottom hole location will be

SW 1/4 of SW 1/4 of SW 1/4 of section 7 T 19N R 3W

Township

Hamilton

County

Clare

Instructions: Outline drilling unit for oil/gas wells (Part 615) or property boundary for mineral wells (Part 625) and spot well location on plat shown. Locate the well in two directions from the nearest section, quarter section, and unit (or property, Part 625) lines.

2. The surface location is

1583 ft. from nearest (N/S) North section line

1700 ft. from nearest (E/W) East section line
and

1069 ft. from nearest (N/S) South quarter section line

937 ft. from nearest (E/W) West quarter section line

3. Bottom hole will be (if directional)

331 ft. from nearest (N/S) South section line

331 ft. from nearest (E/W) West section line
and

331 ft. from nearest (N/S) South quarter section line

331 ft. from nearest (E/W) West quarter section line

4. Bottom hole will be (directional or straight)

331 ft. from nearest (N/S) South drilling unit line

331 ft. from nearest (E/W) West drilling unit line

5. Show access to stake on plat and describe if it is not readily accessible. Set lath and steel rod for well location. Site may be reached 1583 feet South of Stockwell Road and 1700 feet West of Rodgers Road, using the existing access drive to the Litwiller & Peters 1, P.N. 17854. (See detail drawings.)

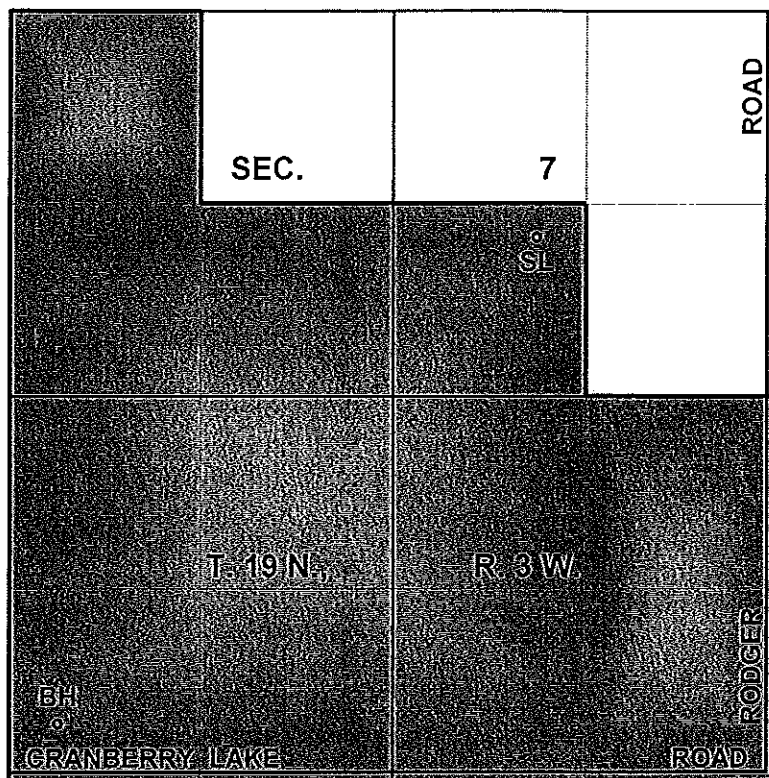
6. Zoning

☐ Residential, effective date _____

Initial date of residential zoning _____

☒ Other Agricultural

PLAT BELOW REPRESENTS ONE FULL SECTION
(1 MILE SQUARE)



ON SEPARATE PLAT OR PLOT PLAN, LOCATE, IDENTIFY AND SHOW DISTANCES TO:

- A. All roads, power lines, buildings, residences, fresh water wells, and other man-made features, within 600 feet of the stake.
B. All lakes, streams, wetlands, drainage-ways, floodplains, environmentally sensitive areas, natural rivers, critical dune areas, and threatened or endangered species within 1320 feet of the stake.
C. All type I and IIa public water supply wells within 2000 feet and all type IIb and III public water supply wells within 800 feet of the well stake.

Name of individual who surveyed site

Thomas F. Worth, P.S.

Company

Worth Surveying

Date of survey

December 5, 2011

Address

P.O. Box 4003, Jackson, MI 49204

Phone

517-788-9806

I CERTIFY THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

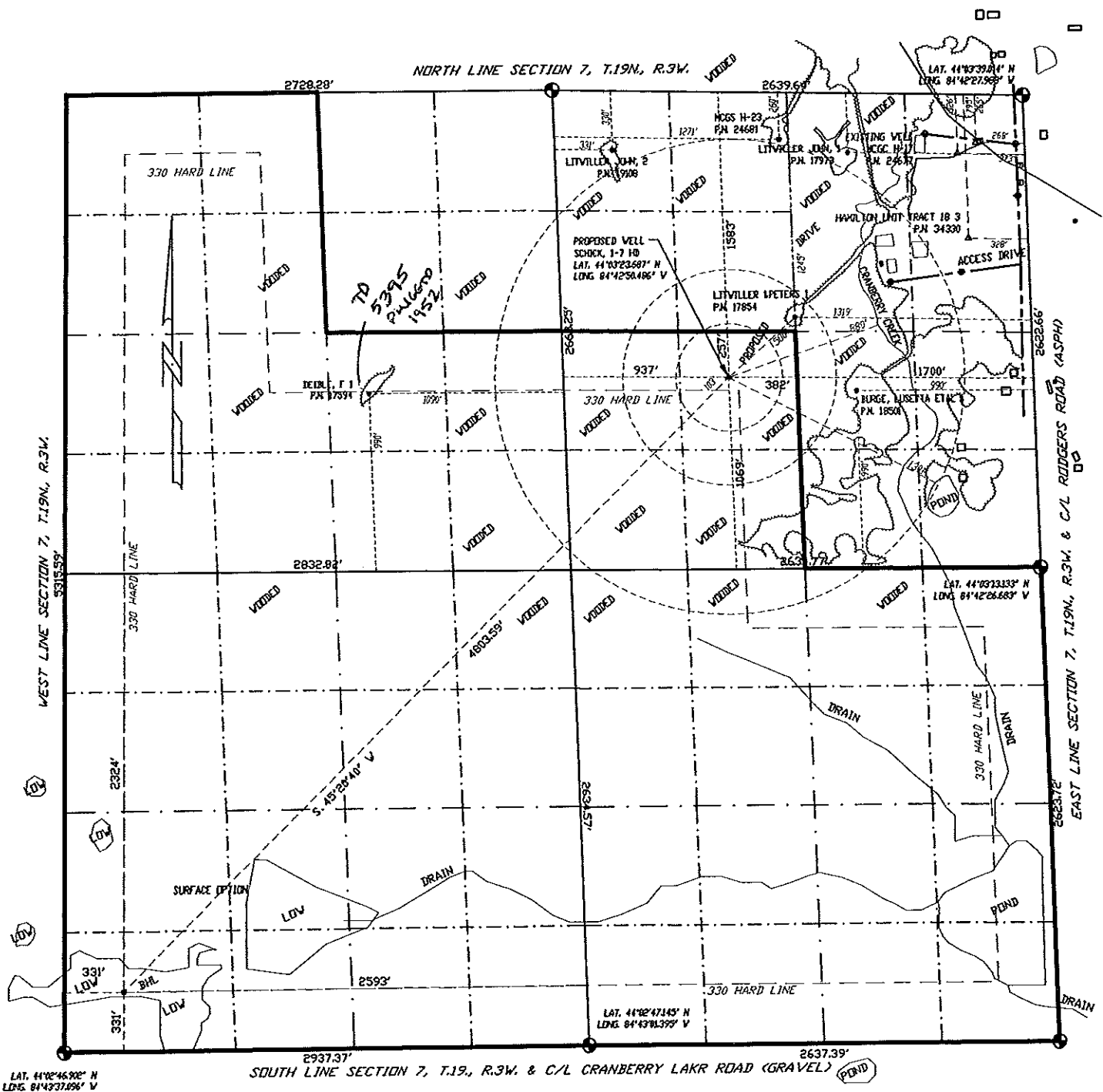
Signature of licensed surveyor (affix seal)

Date

February 7, 2012



DEVON ENERGY PRODUCTION CO., L.P.
 SCHICK, 1-7 HD
 NE 1/4 of S.W. 1/4 of NE 1/4 of
 SECTION 7, T.19N, R.3W, HAMILTON TOWNSHIP,
 CLARE COUNTY, MICHIGAN
 SCALE 1"=800'



DRAWN BY: AWA

DATE: 20-DEC-11

DWG. NO.:

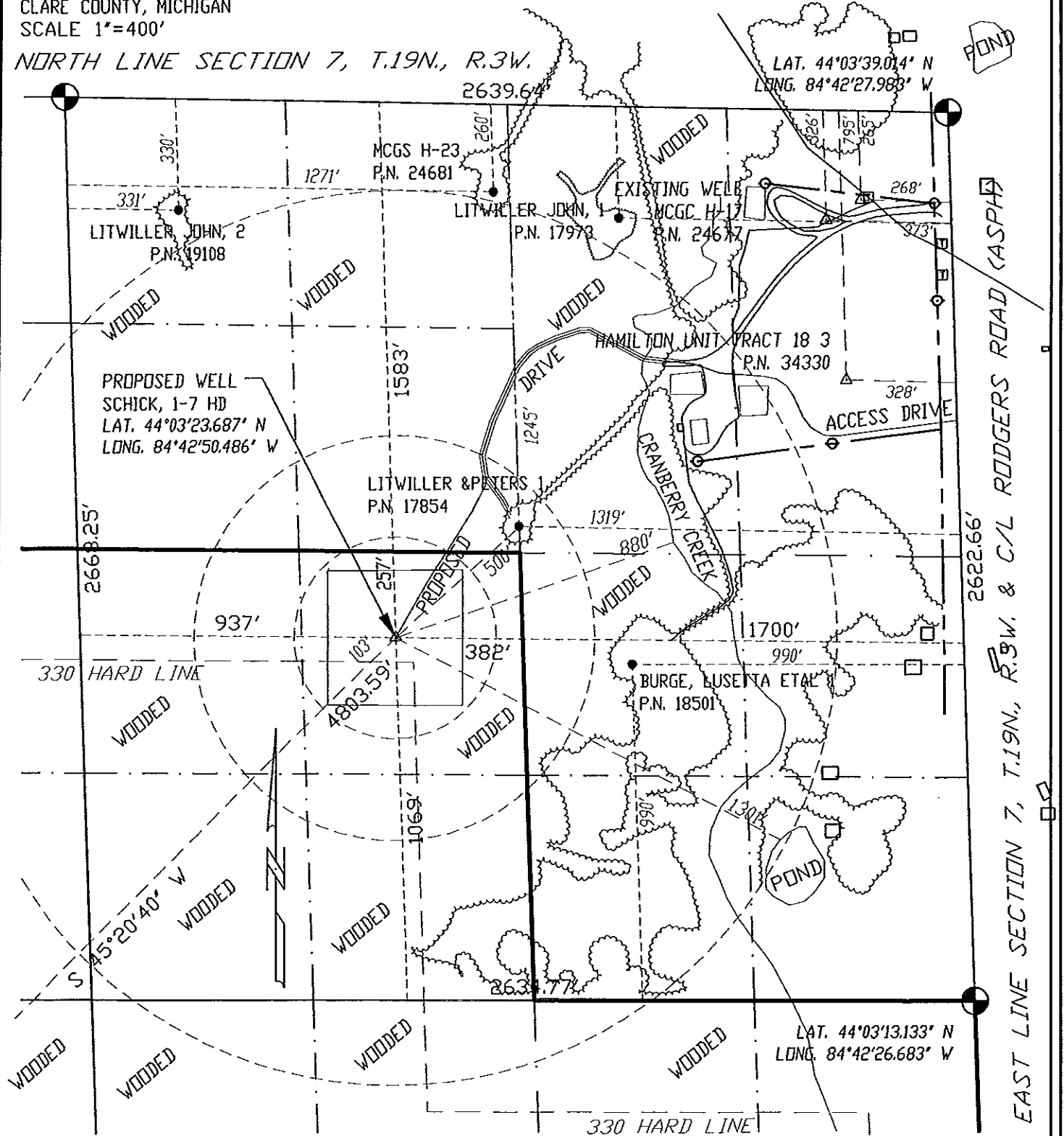
APPROVED BY:

WORTH SURVEYING

P.O. BOX 4003
 JACKSON, MI 49204
 (517)788-9806

DEVON ENERGY PRODUCTION CO., L.P.
 SCHICK, 1-7 HD
 NE. 1/4 of S.W. 1/4 of NE. 1/4 of
 SECTION 7, T.19N., R.3W., HAMILTON TOWNSHIP,
 CLARE COUNTY, MICHIGAN
 SCALE 1"=400'

NORTH LINE SECTION 7, T.19N., R.3W.



DRAWN BY: AWA

DATE: 20-DEC-11

DWG. NO.:

APPROVED BY:

WORTH SURVEYING

P.O. BOX 4003
 JACKSON, MI 49204
 (517)788-9806

DEVON ENERGY PRODUCTION CO., L.P.
SCHICK, 1-7 HD

NE. 1/4 of S.W. 1/4 of NE. 1/4 of

SECTION 7, T.19N., R.3W., HAMILTON TOWNSHIP,
CLARE COUNTY, MICHIGAN
SCALE 1"=200'
VERT. SCALE 1"=10'
CONTOUR INTERVAL = 1'

EAST LINE SECTION 7, T.19N., R.3W.

C/L RODGERS ROAD (ASPH)

DH POWER LINE

ACCESS DRIVE

HAMILTON UNIT TRACT 18 3
P.N. 34330

DH POWER LINE

CRANBERRY CREEK

330 HARD LINE

BURGE, LUSSETTA ETAL 1
P.N. 18501

LITWILLER JOHN, 1
P.N. 17973

LITWILLER & PETERS 1
P.N. 17854

330 HARD LINE

WOODED

1245'

PROPOSED WELL

SCHICK, 1-7 HD
LAT. 44°03'23.687" N
LONG. 84°42'50.486" W

1583'

WOODED

1700'

990'

'B'

'C'

'D'

'A'

'A'

DRAWN BY: AWA

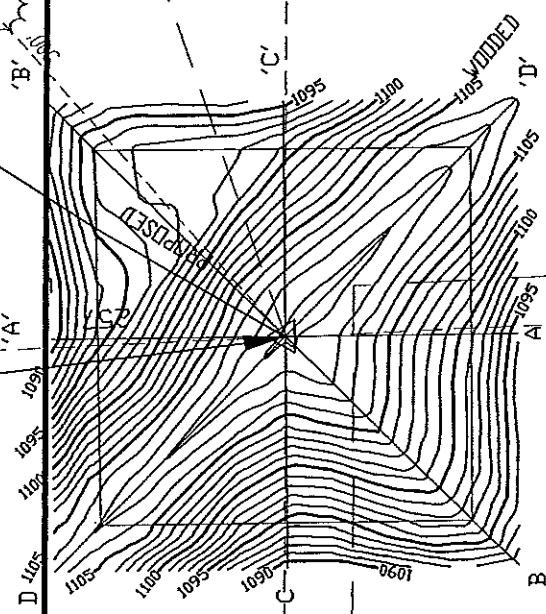
DATE: 20-DEC-11

DWG. NO.:

APPROVED BY:

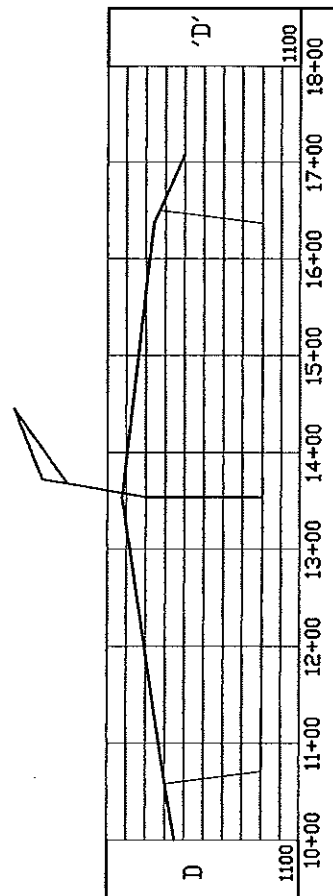
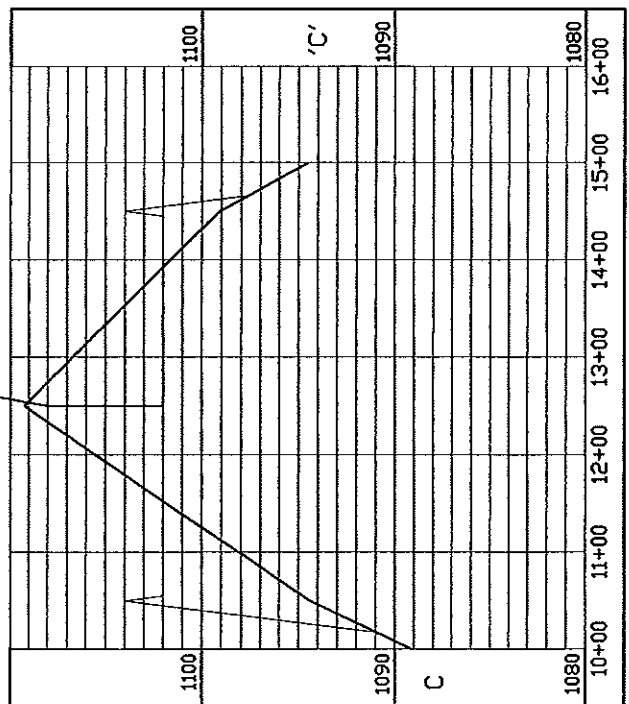
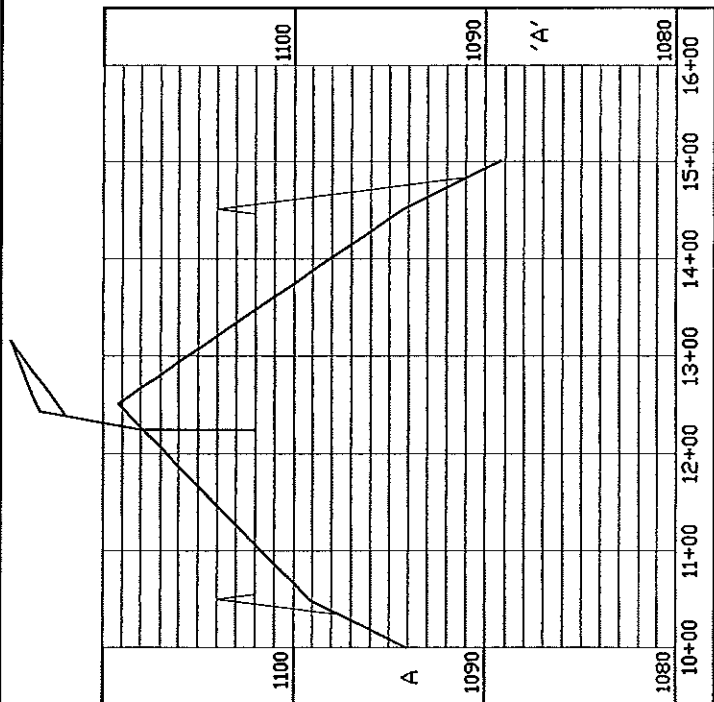
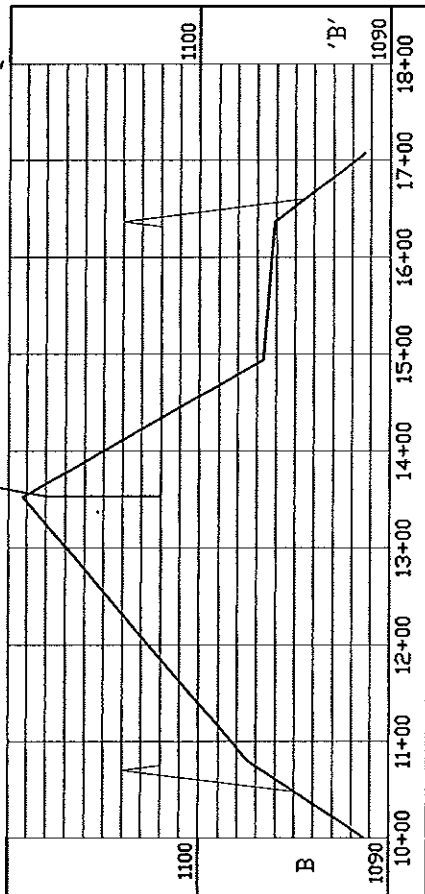
WORTH SURVEYING

P.O. BOX 4003
JACKSON, MI 49204
(517)788-9806



DEVON ENERGY PRODUCTION CO., L.P.
 SCHICK, 1-7 HD
 N.E. 1/4 of S.W. 1/4 of N.E. 1/4 of
 SECTION 7, T.19N., R.3W., HAMILTON TOWNSHIP,
 CLARE COUNTY, MICHIGAN
 SCALE 1"=200'

VERT. SCALE 1"=10'
 CONTOUR INTERVAL = 1'



DRAWN BY: AWA
 DATE: 8-DEC-11
 DWG. NO.:
 APPROVED BY:

WORTH SURVEYING

P.O. BOX 4003
 JACKSON, MI 49204
 (517)788-9806

Well Name **Schick 1-7HD (19N-3W)**

County **Clare Co, MI**

Surface Location:

1700' FEL & 1583' FNL Sec 7-19N-3W

Target Stopping Point:

331' FSL & 331' FWL Sec 7-19N-3W

GL Elev: 1087

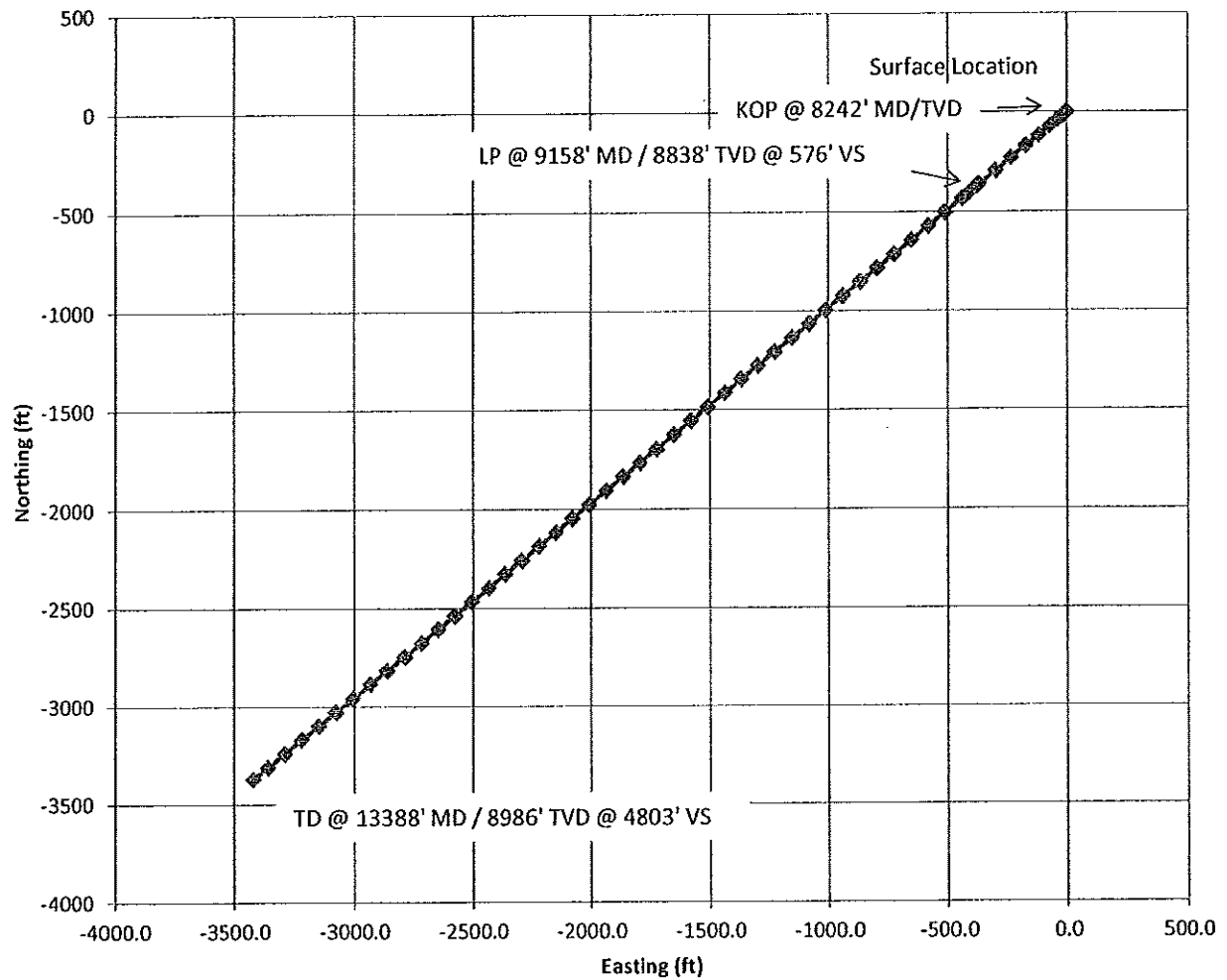
RKB Elev: 1109

Rig

Dirac. Co.

VS Azi: 225.44

Plan View



Well Name **Schick 1-7HD (19N-3W)**

County **Clare Co, MI**

Rig

Dirac. Co.

Surface Location:

1700' FEL & 1583' FNL Sec 7-19N-3W

GL Elev: 1087

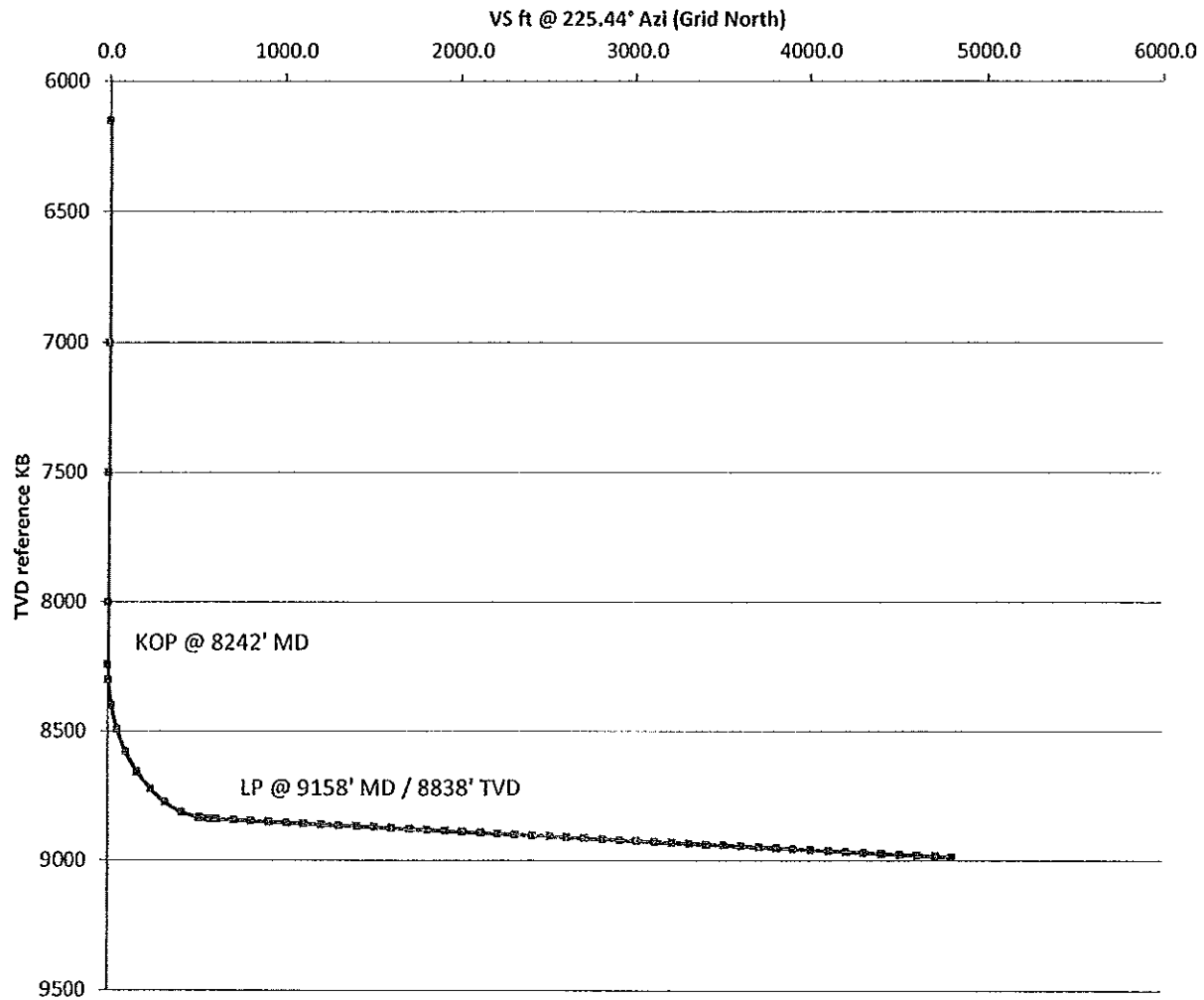
Target Stopping Point:

RKB Elev: 1109

331' FSL & 331' FWL Sec 7-19N-3W

VS Azi: 225.44

Vertical Section View



Well Name **Schick 1-7HD (19N-3W)**County **Clare Co, MI**

Rig

Direc. Co.

Surface Location:

1700' FEL & 1583' FNL Sec 7-19N-3W

GL Elev: 1087

Target Stopping Point:

RKB Elev: 1109

331' FSL & 331' FWL Sec 7-19N-3W

VS Azi: 225.44

Measured			Course		North (+)	East (+)			
Depth	Inclination	Azimuth	Length	TVD	South (-)	West (-)	VS	BUR	DLS
0	0.00	0.00	0	0	0	0.0	0.0		
850	0.00	0.00	850	850	0.0	0.0	0.0	0.00	0.00
1,725	0.00	0.00	875	1725	0.0	0.0	0.0	0.00	0.00
2,000	0.00	0.00	275	2000	0.0	0.0	0.0	0.00	0.00
2,500	0.00	0.00	500	2500	0.0	0.0	0.0	0.00	0.00
3,000	0.00	0.00	500	3000	0.0	0.0	0.0	0.00	0.00
3,500	0.00	0.00	500	3500	0.0	0.0	0.0	0.00	0.00
4,000	0.00	0.00	500	4000	0.0	0.0	0.0	0.00	0.00
4,500	0.00	0.00	500	4500	0.0	0.0	0.0	0.00	0.00
5,000	0.00	0.00	500	5000	0.0	0.0	0.0	0.00	0.00
5,500	0.00	0.00	500	5500	0.0	0.0	0.0	0.00	0.00
6,000	0.00	0.00	500	6000	0.0	0.0	0.0	0.00	0.00
6,150	0.00	0.00	150	6150	0.0	0.0	0.0	0.00	0.00
7,000	0.00	0.00	850	7000	0.0	0.0	0.0	0.00	0.00
7,500	0.00	0.00	500	7500	0.0	0.0	0.0	0.00	0.00
8,000	0.00	0.00	500	8000	0.0	0.0	0.0	0.00	0.00
8,242	0.00	0.00	242	8242	0.0	0.0	0.0	0.00	0.00
8,300	5.57	225.440	58	8300	-2.0	-2.0	2.8	9.61	9.61
8,400	15.18	225.440	100	8398	-14.6	-14.8	20.8	9.61	9.61
8,500	24.79	225.440	100	8492	-38.5	-39.1	54.9	9.61	9.61
8,600	34.39	225.440	100	8579	-73.2	-74.3	104.3	9.61	9.61
8,700	44.00	225.440	100	8656	-117.4	-119.3	167.4	9.61	9.61
8,800	53.61	225.440	100	8722	-170.2	-172.8	242.5	9.61	9.61
8,900	63.21	225.440	100	8774	-229.9	-233.4	327.6	9.61	9.61
9,000	72.82	225.440	100	8812	-294.9	-299.4	420.2	9.61	9.61
9,100	82.43	225.440	100	8833	-363.3	-368.9	517.8	9.61	9.61
9,105	82.91	225.440	5	8834	-366.8	-372.5	522.8	9.61	9.61
9,110	83.39	225.440	5	8834	-370.3	-376.0	527.7	9.61	9.61
9,158	88.00	225.440	48	8838	-403.9	-410.1	575.6	9.61	9.61
9,200	88.00	225.440	42	8839	-433.3	-440.0	617.6	0.00	0.00
9,300	88.00	225.440	100	8843	-503.4	-511.2	717.5	0.00	0.00
9,400	88.00	225.440	100	8846	-573.6	-582.4	817.4	0.00	0.00
9,500	88.00	225.440	100	8850	-643.7	-653.6	917.4	0.00	0.00
9,600	88.00	225.440	100	8853	-713.8	-724.9	1017.3	0.00	0.00
9,700	88.00	225.440	100	8857	-783.9	-796.1	1117.3	0.00	0.00
9,800	88.00	225.440	100	8860	-854.1	-867.3	1217.2	0.00	0.00
9,900	88.00	225.440	100	8864	-924.2	-938.5	1317.1	0.00	0.00
10,000	88.00	225.440	100	8867	-994.3	-1009.7	1417.1	0.00	0.00
10,100	88.00	225.440	100	8871	-1064.4	-1080.9	1517.0	0.00	0.00
10,200	88.00	225.440	100	8874	-1134.5	-1152.1	1616.9	0.00	0.00
10,300	88.00	225.440	100	8878	-1204.7	-1223.3	1716.9	0.00	0.00
10,400	88.00	225.440	100	8881	-1274.8	-1294.5	1816.8	0.00	0.00
10,500	88.00	225.440	100	8885	-1344.9	-1365.7	1916.8	0.00	0.00
10,600	88.00	225.440	100	8888	-1415.0	-1436.9	2016.7	0.00	0.00
10,700	88.00	225.440	100	8892	-1485.2	-1508.1	2116.6	0.00	0.00
10,800	88.00	225.440	100	8895	-1555.3	-1579.4	2216.6	0.00	0.00
10,900	88.00	225.440	100	8899	-1625.4	-1650.6	2316.5	0.00	0.00
11,000	88.00	225.440	100	8902	-1695.5	-1721.8	2416.5	0.00	0.00
11,100	88.00	225.440	100	8906	-1765.6	-1793.0	2516.4	0.00	0.00
11,200	88.00	225.440	100	8909	-1835.8	-1864.2	2616.3	0.00	0.00
11,300	88.00	225.440	100	8913	-1905.9	-1935.4	2716.3	0.00	0.00
11,400	88.00	225.440	100	8916	-1976.0	-2006.6	2816.2	0.00	0.00
11,500	88.00	225.440	100	8920	-2046.1	-2077.8	2916.2	0.00	0.00
11,600	88.00	225.440	100	8923	-2116.3	-2149.0	3016.1	0.00	0.00
11,700	88.00	225.440	100	8927	-2186.4	-2220.2	3116.0	0.00	0.00
11,800	88.00	225.440	100	8930	-2256.5	-2291.4	3216.0	0.00	0.00
11,900	88.00	225.440	100	8934	-2326.6	-2362.6	3315.9	0.00	0.00
12,000	88.00	225.440	100	8937	-2396.8	-2433.8	3415.9	0.00	0.00
12,100	88.00	225.440	100	8941	-2466.9	-2505.1	3515.8	0.00	0.00
12,200	88.00	225.440	100	8944	-2537.0	-2576.3	3615.7	0.00	0.00

Well Name Schick 1-7HD (19N-3W)

County Clare Co, MI

Rig

Dirac. Co.

Surface Location:

1700' FEL & 1583' FNL Sec 7-19N-3W

GL Elev: 1087

Target Stopping Point:

RKB Elev: 1109

331' FSL & 331' FWL Sec 7-19N-3W

VS Azi: 225.44

12,300	88.00	225.440	100	8948	-2607.1	-2647.5	3715.7	0.00	0.00
12,400	88.00	225.440	100	8951	-2677.2	-2718.7	3815.6	0.00	0.00
12,500	88.00	225.440	100	8955	-2747.4	-2789.9	3915.5	0.00	0.00
12,600	88.00	225.440	100	8958	-2817.5	-2861.1	4015.5	0.00	0.00
12,700	88.00	225.440	100	8962	-2887.6	-2932.3	4115.4	0.00	0.00
12,800	88.00	225.440	100	8965	-2957.7	-3003.5	4215.4	0.00	0.00
12,900	88.00	225.440	100	8969	-3027.9	-3074.7	4315.3	0.00	0.00
13,000	88.00	225.440	100	8972	-3098.0	-3145.9	4415.2	0.00	0.00
13,100	88.00	225.440	100	8976	-3168.1	-3217.1	4515.2	0.00	0.00
13,200	88.00	225.440	100	8979	-3238.2	-3288.3	4615.1	0.00	0.00
13,300	88.00	225.440	100	8983	-3308.3	-3359.6	4715.1	0.00	0.00
13,388	88.00	225.440	88	8986	-3370.1	-3422.2	4803.0	0.00	0.00

**ENVIRONMENTAL IMPACT ASSESSMENT**

Required for issuance of well permit pursuant to Part 615, 1994 PA 451, as amended. Falsification of this information may result in fines and/or imprisonment. Check all boxes and fill in all blanks which apply to this drilling application. Attach additional pages as necessary.

A. DESCRIPTION OF PROJECT

1. Applicant's name Devon Energy Production Co., L.P.	Well name and number Schick, 1-7 HD	Intended use of well Exploratory
2. Mineral ownership, check each category of mineral owners in drilling unit or Antrim Uniform Spacing Plan <input checked="" type="checkbox"/> Private <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> Other, identify		
3. Applicable spacing order and drilling unit size <input type="checkbox"/> S.O. 14-9-94 N. Mich. Antrim, 80 acres <input type="checkbox"/> S.O. 3-3-95 S. Mich. Antrim, 40 acres <input type="checkbox"/> S.O. 1-73 Niagaran, 80 acres <input type="checkbox"/> S.O. 2-81 Oakland Co. Niagaran, 40 acres <input checked="" type="checkbox"/> R 324.301 General rule, 40 acres <input type="checkbox"/> S.O. 1-86 P.D.C., 640 acres <input type="checkbox"/> Field Spacing or Utilization Order (identify below) <input type="checkbox"/> Antrim USP (identify name, number of acres, and number of drilled and permitted wells) <input checked="" type="checkbox"/> Administrative exception requested per R324.303 (2). See instructions for applying for an administrative spacing exception <input type="checkbox"/> Exception to spacing requested, petition for hearing filed <input type="checkbox"/> Non-producing well, no drilling unit		
4. Applicant's right to drill and produce <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Are all mineral interests in the drilling unit under lease and controlled by the applicant/permittee? If no, <input type="checkbox"/> petition filed for compulsory pooling OR <input type="checkbox"/> certified efforts to obtain leases are attached (if allowed by spacing order) <input type="checkbox"/> Not applicable, no drilling unit. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Has applicant obtained all contractual rights needed to locate the well where it is proposed? If no, <input type="checkbox"/> what additional approvals are needed? _____		
5. Special considerations <input type="checkbox"/> Replacement well for permit no. _____ or <input type="checkbox"/> Existing well pad <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is well expected to encounter H ₂ S? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is well located in a city, township, or village with a population greater than 70,000? <input checked="" type="checkbox"/> Other (describe) Partial existing access drive _____		

B. IMPACTS AS A RESULT OF DRILLING

1. Access route dimensions 2110 feet x 20 feet / 43,560 = 0.97 acres. Provide a detailed description of topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use for the access route while drilling. Identify route on attached plat. Access to the site will be West from Rodgers Road, an asphalt surface county road, located 1700 feet East of the stake. We will utilize 950 feet of existing access road. The general topography along the access route is rolling land, and ground cover consists of grass, weeds and small trees. Present land use is agricultural, and surface drainage is Southerly at slopes of approximately three per cent (3%). Soil types are Graycalm sand and Montcalm loamy sand.
2. Well site dimensions 400 feet x 400 feet / 43,560 = 3.67 acres. Provide a detailed description of topography, drainage, soil types(s), direction and percentage of slopes, land cover and present land use for the well site. Identify well site on attached plat The proposed well site is located on rolling land, and surface drainage is Northeasterly and Southwesterly at slopes of approximately five per cent (5%). Present land use is agricultural, and ground cover consists of grass, weeds and trees. Site preparation will require the removal of about 12 trees, consisting of 6-inch to 24-inch diameter pine and beech, and numerous small poplars. Soil types are Montcalm loamy sand.
3. Is well site located in residentially zoned area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, R324.407(3) and R324.505 apply.
4. Are drain tiles present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, identify where they exist on attached plat or project map. How will they be handled if they are encountered? .
5. Identify the distance and direction to all of the following, also identify on attached plat a. All buildings, fresh water wells, public roads, power lines and other man-made features within 600' of the well site. The Litwiller & Peters 1, P.N. 17854, is located 500 feet Northeast of the stake, with an old pipeline running Northeast from the well. b. All Type I and Type IIa public water supply wells within 2000' of the well site and all Type IIb and Type III public water wells within 800' of the well site None

(Type I is a community water supply with year-round service ≥ 15 living units or ≥ 25 residents. Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Average daily water production: IIA ≥ 20,000 GPD IIB <20,000 GPD Type III is a public water supply which is neither type I or II.)

(Part B-5 continued)

c. Surface waters, floodplains, wetlands, natural rivers, critical dune areas, threatened or endangered species within 1320' and Great Lake shorelines within 1500' of the well site Cranberry Creek flows Southerly 880 feet East-Northeast of the stake, and there is a pond located 1301 feet Southeast. There are no threatened or endangered species listed for this site.

d. Describe the actions to be taken to mitigate impacts to any of the items identified in Part B-5 a-c above. All surface water features will be protected through the use of berms and silt fencing. No other special measures should be necessary to mitigate the effects of drilling and production operations at this location.

6. Identify the source of fresh water used for drilling and completing this well

- ☐ "Permanent" water well, to be retained after final completion OR used for drinking water (shall be drilled and installed pursuant to Part 127 of 1979 PA 368, as amended)
- ☒ "Temporary" water well, will be plugged upon final completion and not used for drinking water (consult R 324.403 (2) for minimum construction requirements)
- ☐ Fresh water will be hauled from existing water well or municipal source (identify) _____
- ☐ No fresh water will be used in drilling this well

7. Method of Well Completion and Well Treatment (check all that may apply)

- ☒ Conventional perforated casing ☒ Acidizing
- ☐ Open Hole ☒ Hydraulic Fracturing Estimated Total Water Volume 3,000,000 GAL.
- NOTE: Water volumes in excess of 100,000 gallons are subject to SOW Instruction 1-2011
- ☒ Other (describe) We may decide at a later date that open hole completion would be best.

8. Pit location and handling and disposal of drill cuttings, muds and fluids

- Anticipated depth to groundwater 12 feet + _____ Method determined by Auger test
- ☒ On site in-ground pit, anticipated dimensions: L 200 ft. W 60 f D 15 ft.
- ☐ Remote in-ground pit, anticipated dimensions: L _____ W _____ D _____
- Attach approval of landowner and attach survey of remote pit location
- ☒ Well drilled below base of Detroit River Anhydrite. Describe how mud and cuttings pursuant to R324.407(7)(iv) will be handled.
- Pit fluids below DRA disposed by Seiler Tank Truck Service, Inc. licensed liquid waste hauler OR
- Pit fluids below DRA disposed at the _____ disposal well.
- If drill cuttings & mud don't pass paint filter test, they will be disposed at Harrison landfill.
- ☐ No salt cuttings OR
- ☒ Salt cuttings dissolved and disposed by Seiler Tank Truck Service, Inc. licensed liquid waste hauler OR
- ☐ Salt cuttings hauled to _____ landfill
- ☐ Temporary pit, cuttings and muds disposed at (identify) _____
- ☐ No in-ground pit, cuttings and muds disposed at (identify) _____
- ☐ Pit will be solidified.

C. IMPACTS AS A RESULT OF PRODUCTION

1. Kind of well ☒ exploratory ☐ development ☐ Other (describe) _____
- ☐ Antrim project (submit separate project EIA, form EQP 7200-21, for access roads, flow lines, and surface facilities)
- where is project EIA found? _____ and complete C-2, omit C-3 and C-4

2. Location of surface facilities (Prior to construction, the District Geologist, pursuant to R324.1002, must also approve all surface facility secondary containment plans.)

- ☐ Greater than 300' from wellhead. Identify facility location on attached plat and complete C-3 and C-4.
- ☐ Less than 300' from wellhead. Identify facility location on attached plat, complete C-3, omit C-4
- ☐ Surface facility exists or was previously approved for construction and is known as _____ complete C-3, omit C-4.
- ☒ Surface facility location was not determined for this exploratory well (omit C-3 and C-4). Submit a separate request for Surface Facility Location Approval (form 7200-22), which includes a Facility Plan, Environmental Impact Assessment, and Soil Erosion and Sedimentation Control Plan, to District Geologist prior to construction pursuant to R324.504.

3. Flow Line Environmental Impact Assessment

- ☐ Identify flow line location and course from well to the surface facility on attached plat.
- Flow line route dimensions _____ feet x _____ feet / 43,560 = _____ acres.
- Describe the topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use along the flow line route

4. Surface Facility Environmental Impact Assessment

- a. Dimensions of surface facility _____ feet x _____ feet / 43,560 = _____ acres.
- b. Describe the topography, drainage, soil type(s), direction and percentage of slopes, land cover, and present land use
1. Along access route to surface facility

Part C-4, continued

2. At surface facility site

c. Are surface facilities likely to receive oil or gas with H₂S concentration greater than 300 ppm? ☐ Yes ☐ No, if yes, R324.1106(2) applies.

d. Will surface facilities be located in residentially zoned area? ☐ Yes ☐ No, If yes, R324.506 may apply

e. Identify the distance and direction to all of the following, and identify on attached plat

1. Distance and direction to all buildings, fresh water wells, public roads, power lines and other man-made features within 600' of surface facility

2. Distance and direction to any surface waters, floodplains, wetlands, natural rivers, critical dune areas, and threatened or endangered species within 1320' and Great Lakes shorelines within 1500' of the surface facility site

3. Describe the actions to be taken to mitigate impacts to any of the items identified in Part C-4e 1 and 2 above.

4. Distance and direction to all Type I and Type IIa public water supply wells within 2000' of the surface facility site and all Type IIb and Type III wells within 800' of the surface facility

Type I is a community water supply with year-round service ≥ 15 living units or ≥ 25 residents. Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Average daily water production: IIa $\geq 20,000$ GPD IIb $< 20,000$ GPD Type III is a public water supply which is neither type I or II.

5. Method of brine disposal

☐ Dedicated flow line to disposal well _____, permit number _____

☒ Transported by tanker. ☐ Other _____

6. Method of transporting hydrocarbons past the point of sale

☐ Oil sold through transmission line

☒ Gas sold through transmission line

☒ Oil transported by tanker for sale

☐ Gas flared on site (production restrictions may apply)

☐ Other _____

D. MITIGATION OF IMPACTS FROM DRILLING AND/OR PRODUCTION

Describe additional measures to be taken to protect environmental and/or land use values A moderate amount of earthwork will be necessary to construct the access drive and drilling pad. Topsoil will be stockpiled and replaced as conditions permit. There should be little impact on residents, public utilities or land and water use in the area due to the remote setting of the site. Sufficient cover will remain for wildlife in the area. Land values should not be adversely affected by drilling and production operations at this site.

E. ADDITIONAL PERMITS

Identify additional permits to be sought None

F. SOIL EROSION AND SEDIMENTATION PLAN

Submit a soil erosion and sedimentation plan (form 7200-18) which addresses each well site, surface facility, and flow line route identified in this application. (Refer to requirements under Part 91, 1994 PA 451)

G. ALTERNATE WELL AND SURFACE FACILITY LOCATIONS

Were alternate surface locations considered for this well or surface facility?

☐ No, alternate sites did not seem necessary or more desirable

☒ Yes, the following locations were considered The original surface location was to be 567 feet from the North line and 363 feet from the East line of the section.

Why were they rejected in favor of the proposed location? We were unable to reach an agreement with the surface owners.

H. CERTIFICATION

"I state that I am authorized by said applicant to prepare this document. It was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Thomas F. Worth, P.S.

Name and title (printed or typed)

Authorized Signature

February 7, 2012

Date

Enclose with Application for Permit to Drill

**SOIL EROSION & SEDIMENTATION
CONTROL PLAN**

By authority of Part 91, and Part 615 or Part 625 of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment. Applicants for multisource commercial hazardous waste disposal wells under Part 625 are required to obtain a Part 91 permit from a county or local enforcing agency

☒ Part 615 Oil/Gas Well ☐ Part 625 Mineral Well

1. Name and address of applicant

Devon Energy Production Co., L.P.
20 North Broadway
Oklahoma City, OK 73102

Phone: (405)235-3611 Fax: (NA)

2. Well or project name:

Schick, 1-7 HD

3. Well or project location:

Section(s) 7 T19N R3W

4. Name and address of County or local Enforcement Agent (CEA)

Stephen Conroy
Clare Conservation District
P.O. Box 356

Harrison, MI 48265

Phone: (231)539-7320 Fax: (231) 539-7385

5. Township

Hamilton

6. County

Clare

7. Date earth changes expected to start

Within two months after obtaining permit to drill.

8. Date of expected completion

Within two months after obtaining permit to drill.

9. Name and address of person responsible for earth change:

George Durlington
3101 South Lakeside Drive
Oklahoma City, OK 73179

Phone: (405)843-5566 Fax: (405) 843-5566

10. Name and address of person responsible for maintenance:

George Durlington
3101 South Lakeside Drive
Oklahoma City, OK 73179

Phone: (405)843-5566 Fax: (405) 843-5566

11. Send copies of supplemental plat required by Part 615, R 324.201(2)(b) or R 324.504(4), and this form and all attachments, to CEA. For Part 625 Mineral Wells, send to CEA only as instructed by OOGM staff.

Date sent to CEA February 8, 2012

EARTH CHANGE ACTIVITIES

12. Project description: (Project activities may be permitted sequentially.)

- a. Number of well sites 1, 3.67 acres d. Flow line(s) trenched in off well site*NA feet, NA acres
b. Number of surface facility sites 1, 3.67 acres e. Flow line(s) plowed in off well site*NA feet, NA acres
c. New access roads 1160 feet, 0.53 acres *Contact CEA for fee schedule

13. Describe sites for which permits are being sought under Part 301 (Inland Lakes & Streams) None

Describe sites for which permits are being sought under Part 303 (Wetlands) None

List file numbers if known NA

14. Attach detail map at scale of 1"=200' or larger, with contour lines at a minimum of 20' intervals OR percent slope descriptions.

15. Areas requiring control structures

Will earth changes occur in areas with slopes of 10% or greater; areas where runoff water is likely, such as runs greater than 500' of moderate slope (5% to 10%), narrow valley bottoms, etc.; areas within 500' of a lake or stream; or other areas where sedimentation to a wetland or drainage way may occur?

☐ Yes ☒ No

Indicate any of the following erosion control structures that will be utilized. Identify location on detail map and attach detail plan.

Indicate on plan whether erosion control structures are temporary or permanent.

☐ Diversions ☐ Culverts ☐ Sediment basins ☒ Silt fences ☐ Rip-rap ☒ Berms ☐ Check dams

☐ Other

16. Site restoration

☒ Topsoil will be segregated from subsoil and stockpiled OR ☐ No topsoil on site

☒ Recontour and revegetate as soon as weather permits. Seed mix Michigan DNR mix or land owner preference

☐ Describe other proposed methods of restoration

17. Application prepared by (name)

Thomas F. Worth, P.S.

Signature

Date

February 7, 2012

FOR USE OF COUNTY OR LOCAL ENFORCING AGENT

INSTRUCTIONS TO COUNTY OR LOCAL ENFORCING AGENT: Copies of supplemental plat required by Part 615, R 324.201(2)(b) or R 324.504(4), and this form and all attachments are provided for CEA review and informational purposes only. Submittal to CEA is not a requirement under Part 615 or 625. Part 615 and 625 Permits to Drill and Operate include erosion control plan approval for well sites, access roads, flow lines, and surface facilities. Return this form to the applicable field or district office of the Office of Oil, Gas, and Minerals (OOGM) within 30 days of receipt. OOGM will consider all comments and recommendations in reviewing the application.

17. Comments

☐ Conducted on site inspection

Date

☐ Inspected site with representative of applicant

Date

CEA (name)

Date

**WELLHEAD BLOWOUT CONTROL SYSTEM**

Worksheet supplement for "Application for Permit to Drill or Deepen a Well"

This information is required by authority of Part 615
Supervisor of Wells or Part 625 Mineral Wells, Act 451
PA 1994, as amended, in order to obtain a permit.

Applicant
Devon Energy Production Co., L.P.
20 North Broadway
Oklahoma City, OK 73102

Well name and number
Schick, 1-7 HD

Max. anticipated surface pressure 4000 psiAnnular B.O.P. 13 5/8 ", 5000 psi W.P.B.O.P. Pipe Rams 5 ", 10,000 psi W.P.
(Pipe/Blind)B.O.P. Blind Rams NA ", 10,000 psi W.P.
(Pipe/Blind)Check Valve 4 1/16 ", 10,000 psi W.P.Valve 4 1/16 ", 10,000 psi W.P.Valve 4 1/16 ", 10,000 psi W.P.Valve 4 1/16 ", 10,000 psi W.P.Valve 4 1/16 ", 10,000 psi W.P.Spool 13 5/8 ", 10,000 psi W.P.Line 4 ", 10,000 psi W.P.Wellhead 10,000 psi W.P.

B.O.P.
☐ Manual
☒ Hydraulic
☒ Sour Trim

Fill above blanks with applicable information. If not applicable, enter "N.A." or cross-out item shown.

Describe test pressures and procedure for conducting pressure test. Identify any exceptions to R324.406 being requested.

The 13 5/8" BOP equipment will be installed after running and cementing the 13 3/8" surface casing at 1725 feet.

From Top to bottom 13-5/8" 5K annular, 13-5/8" 10K (5") ram, 13-5/8" 10K blind ram, 13-5/8" 10K mud cross and 13-5/8" 10K (5") ram.

Test pressures for pipe/blind rams, choke/kill line valves: 250 psi low/10,000 psi high prior to drilling below 13 5/8" casing.

Test pressure for annular: 250 psi low/3,500 psi high prior to drilling below 13 3/8" surface casing.

BOPE will be certified by independent third party tester prior to installation.

Test pressures for pipe/blind rams, choke/kill line valves: 250 psi low/10,000 psi high prior to drilling below 9 5/8" intermediate casing.

Test pressure for annular: 250 psi low/3,500 psi high prior to drilling below 9 5/8" intermediate casing.

An 11" 10,000 psi x 13 5/8" 10,000 psi adapter will be installed on the 11" 10,000 psi casing head to facilitate NU 13 5/8" BOPE

H2S CONTINGENCY PLAN

H2S CONTINGENCY PLAN FOR:

Devon Energy Production Co., L.P.
20 North Broadway
Oklahoma City, OK 73102

SCHICK, 1-7 P
NE-SW-NE Section 7, T.19N., R.3W.
Hamilton Twp., Clare Co. Michigan

EMERGENCY PHONE NUMBERS:

Company Personnel:

Joel Guichard
Greg Sibley

(832) 465-5414 Cell
(713) 265-6518 Office

Notification Personnel:

George Durlington, Oklahoma City, OK (405) 843-5566 work (405) 641-5579 cell

Drilling Contractor:

Undetermined.

MDNRE:

Saginaw Bay District Office
401 Ketchum Street
Bay City, MI 48708
Contact: Vicki Barnard - Supervisor

(989) 894-6200

(989) 894-6235 office

Wayne Todd - Senior Geologist (989) 894-6231 office

Clare County Emergency Coordinator

Jerry Becker, Director
255 W. Main Street
Harrison, MI 48625

(989) 539-6161
(989) 539-6002 Fax
(989) 302-0719 Cell

Clare County Sheriff's Office

(989) 539-7166 or 911

State Police – Gladwin Post

(989) 426-3068 or 911

Ambulance – United Rescue Service & Mobile Medical Response 911

MidMichigan Medical Center Clare
703 North McEwan Street, Clare, MI 48617

(989) 802-5109

Fire Department – Harrison Fire Dept. (989) 539-7145 or 911

PEAS

(800) 292-4706

H2S CONTINGENCY PLAN

H2S CONTINGENCY PLAN FOR:

Devon Energy Production Co., L.P.
20 North Broadway
Oklahoma City, OK 73102

SCHICK, 1-7 P
NE-SW-NE Section 7, T.19N., R.3W.
Hamilton Twp., Clare Co. Michigan

Nearest public phone:

There are no public telephones near the site,
however, several cell phones will be on site.

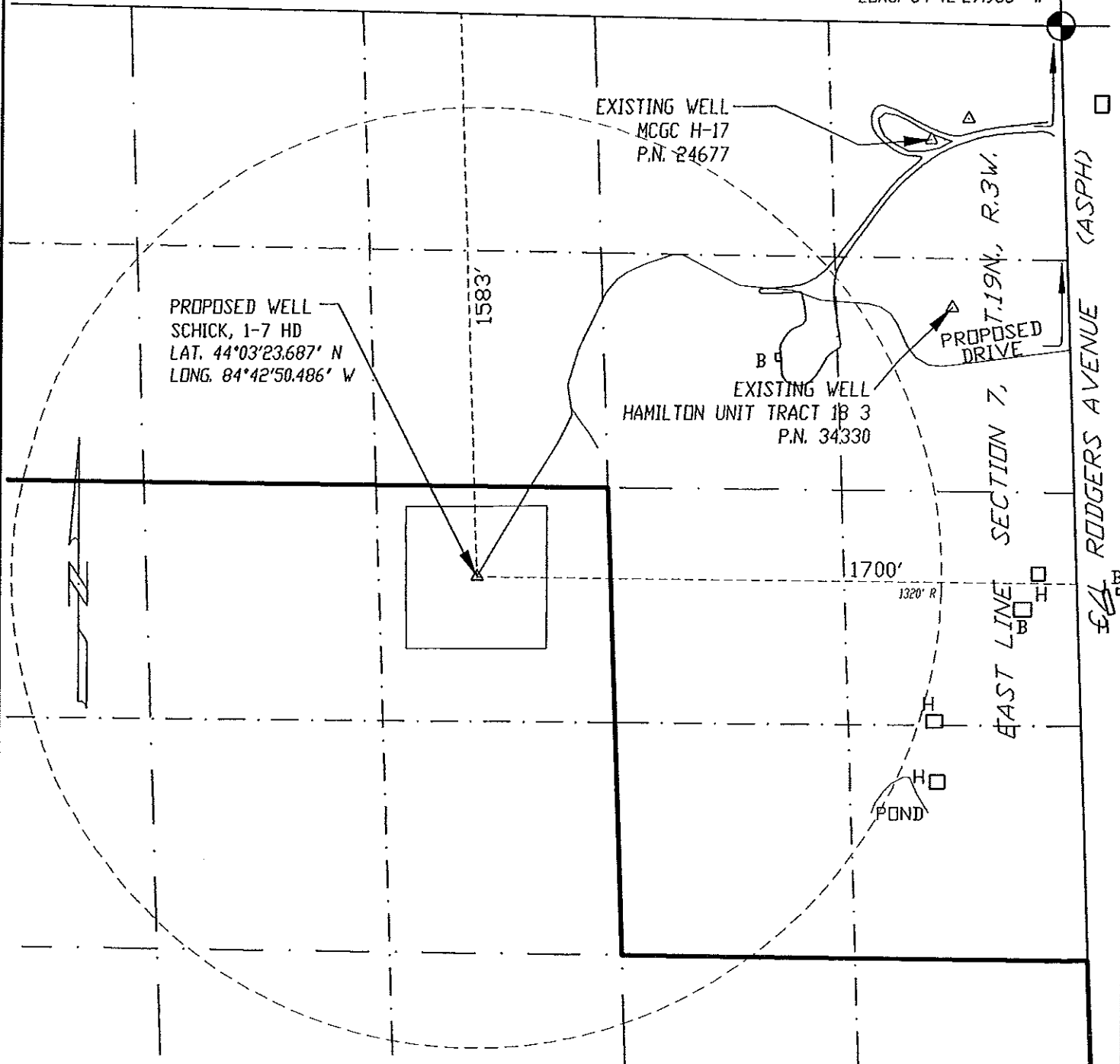
Residents within 1320 feet of well:

Name	Address	Phone	City/State
NONE			

DEVON ENERGY PRODUCTION CO., L.P.
SCHICK, 1-7 HD
NE. 1/4 of S.W. 1/4 of NE. 1/4 of
SECTION 7, T.19N., R.3W., HAMILTON TOWNSHIP,
CLARE COUNTY, MICHIGAN
SCALE 1"=400'

NORTH LINE SECTION 7, T.19N., R.3W.

B B
□ □
B
□ □ H
LAT. 44°03'39.014" N
LONG. 84°42'27.983" W



DRAWN BY: AWA
DATE: 20-DEC-11
DWG. NO.:
APPROVED BY:

WORTH SURVEYING

P.O. BOX 4003
JACKSON, MI 49204
(517)788-9806

A.11. Description of the drilling program including drilling fluids to be used, fluid handling and any overpressured zones to be encountered.

Once the Schick 1-7P pilot hole reaches TD and logs are run, plug back to $\pm 8,200'$. Dress off cement. Orient BHA and drill 8-3/4" curve to $\pm 9,150'$ MD (8,838' TVD). Land curve at approximately 88° in A-1 Carbonate. Run 7" 32# HCL-80 BTC casing to 9,150' MD. Cement as described in Attachment A.12. Drilling fluid will be used on next section of hole.

Drill 6" lateral to 13,388' MD (8,986' TVD) in A-1 Carbonate using brine system from previous section. Will use steel pits/tanks for holding brine drilling fluid and cuttings washer for handling solid salt cuttings. Run 4-1/2" 15.1# T-95 VAM-TOP casing to TD. Cement as described in Attachment A.12.

Free water will be pulled from pits and hauled to commercial disposal. Mud/cuttings will be solidified and buried in reserve pit (or hauled to commercial disposal if no reserve pit is used).

In the event abnormal pressure is encountered, the existing brine drilling fluid system will be displaced with pre-mixed hematite mud at sufficient density to control pressure.

A.12. Description of the cementing program including type, properties and compressive strength of cement to be used on each casing string. Indicate if stage tools will be used.

The following cementing program is planned for the Schick 1-7 HD1 (horizontal drain hole):

The 7" intermediate casing will be cemented in 8-3/4" hole at ~~9,150'~~^{9,400} MD (~~8,838'~~^{8,846} TVD) with approximately 350 sacks of 50:50 Poz:H + 10% Salt + 2% Gel/bentonite + 0.1% Sec-10 + 0.5% Super FL-300 (yield 1.43 ft³ / sack, density 14.23 ppg) followed by 230 sacks of Class H + 0.6% Super FL-300 (yield 1.17 ft³ / sack, density 16.35 ppg). It is calculated that this volume will bring the top of cement to 5,650' in the annulus.

The 4-1/2" production casing will be cemented in 6" hole at 13,388' MD (8,986' TVD) with approximately 480 sacks of 50:50 Poz:H + 18% Salt + 1.1% FL-350 + 0.25% defoamer (yield 1.14 ft³ / sack, density 15.0 ppg). It is calculated that this volume will bring the top of cement to 8,000' in the annulus.

No stage tools are planned for any of these cementing operations.

A.13. Description of the proposed wireline logging program.

If hole conditions allow, a drill-pipe conveyed logging run may be performed after the well reaches TD (planned 13,388' MD / 8,986' TVD).

A.14. Description of the testing program, including pressure tests on casing strings and any planned drill stem tests.

The following tests are planned to be conducted on the Schick #1-7 HD1:

Third intermediate – 7" 32# HCL-80 – will be tested to 3,500 psi.

Production casing – 4-1/2" 15.1# T-95 – will be tested to 6,000 psi.

There are no drill stem tests anticipated for this well at this time. Production testing will commence once well has been completed.

A.15. Description of the proposed coring program.

There are no plans to obtain cores from any formation in the Schick #1-7 HD1.

WORTH SURVEYING
P.O. Box 4003
Jackson, MI 49204
Telephone 517-788-9806
Fax 517-788-9937
e-mail worthsurveying@sbcglobal.net

February 7, 2012

John L. Schick and Louise G. Schick, and Thomas J. Schick
4700 Jones Road
Beaverton, MI 48612

re: Proposed drilling operations

Dear Schick Family:

Contingent upon the Michigan Department of Environmental Quality (MDEQ) issuing a drilling permit, Devon Energy Production Company, L.P. plans to drill a hydrocarbon production well to be located 1583 feet from the North line and 1700 feet from the East line of the Northeast quarter of Section 7, Town 19 North, Range 3 West, Hamilton Township, Clare County, Michigan.

The well will be known as the Schick, 1-7 P and Schick, 1-7 HD. (See the drilling permit application enclosed herewith.)

Should you have any questions regarding these proposed drilling operations, please feel free to contact me at 517-788-9806.

Respectfully,

Thomas F. Worth, P.S.
Worth Surveying

cc: MDEQ Office of Oil, Gas and Minerals

WORTH SURVEYING
P.O. Box 4003
Jackson, MI 49204
Telephone 517-788-9806
Fax 517-788-9937
e-mail worthsurveying@sbcglobal.net

February 7, 2012

Ms. Pamela Mayfield
Clare County Clerk's Office
P.O. Box 438
Harrison, MI 48625

re: Proposed drilling operations

Dear Ms. Mayfield:

Contingent upon the Michigan Department of Environmental Quality (MDEQ) issuing a drilling permit, Devon Energy Production Company, L.P. plans to drill a hydrocarbon production well to be located 1583 feet from the North line and 1700 feet from the East line of the Northeast quarter of Section 7, Town 19 North, Range 3 West, Hamilton Township, Clare County, Michigan.

The well will be known as the Schick, 1-7 P and Schick, 1-7 HD. (See the drilling permit application enclosed herewith.)

Should you have any questions regarding these proposed drilling operations, please feel free to contact me at 517-788-9806.

Respectfully,

Thomas F. Worth, P.S.
Worth Surveying

cc: MDEQ Office of Oil, Gas and Minerals

WORTH SURVEYING
P.O. Box 4003
Jackson, MI 49204
Telephone 517-788-9806
Fax 517-788-9937
e-mail worthsurveying@sbcglobal.net

February 7, 2012

Mr. Jerry Becker
Clare County Emergency Management Coordinator
P.O. Box 438
Harrison, MI 48625

re: Proposed drilling operations

Dear Mr. Becker:

Contingent upon the Michigan Department of Environmental Quality (MDEQ) issuing a drilling permit, Devon Energy Production Company, L.P. plans to drill a hydrocarbon production well to be located 1583 feet from the North line and 1700 feet from the East line of the Northeast quarter of Section 7, Town 19 North, Range 3 West, Hamilton Township, Clare County, Michigan.

The well will be known as the Schick, 1-7 P and Schick, 1-7 HD (See the drilling permit application enclosed herewith), and has the potential for producing hydrogen sulfide gas. The H2S Contingency Plan for this proposed well is attached hereto.

Should you have any questions regarding these proposed drilling operations, please feel free to contact me at 517-788-9806.

Respectfully,

Thomas F. Worth, P.S.
Worth Surveying

cc: MDEQ Office of Oil, Gas and Minerals

WORTH SURVEYING
P.O. Box 4003
Jackson, MI 49204
Telephone 517-788-9806
Fax 517-788-9937
e-mail worthsurveying@sbcglobal.net

February 7, 2012

Clare Conservation District
Attn: Stephen Conroy, Soil Erosion Agent
P.O. Box 356
Harrison, MI 48625

re: Proposed drilling operations

Dear Mr. Conroy:

Contingent upon the Michigan Department of Environmental Quality (MDEQ) issuing a drilling permit, Devon Energy Production Company, L.P. plans to drill a hydrocarbon production well to be located 1583 feet from the North line and 1700 feet from the East line of the Northeast quarter of Section 7, Town 19 North, Range 3 West, Hamilton Township, Clare County, Michigan.

The well will be known as the Schick, 1-7 P and Schick, 1-7 HD. (See the drilling permit application enclosed herewith.)

Should you have any questions regarding these proposed drilling operations, please feel free to contact me at 517-788-9806.

Respectfully,

Thomas F. Worth, P.S.
Worth Surveying

cc: MDEQ Office of Oil, Gas and Minerals



Devon Energy Production Company
Regulatory Affairs
Phone: (405)-228-8217
20 North Broadway – Suite 612
Oklahoma City, Oklahoma 73102-8260
Fax (405)-228-7518
Annette.Raines@dvn.com

February 8, 2012

Permits and Bonding Unit
Office of Oil, Gas and Minerals
Michigan Department of Environmental Quality
P.O. Box 30256
Lansing, MI 48909-7756

RE: Devon Energy Production Co., L.P.; Schick 1-7P & Schick 1-7HD

Dear Sirs:

Devon Energy plans to drill a gas well in Section 7, T-19-N, R-03-W, Hamilton Township, Clare County, Michigan. The Schick 1-7P will be drilled as a pilot hole to the top of the Niagaran to obtain log information. It will then be plugged back and a horizontal drain hole, Schick 1-7HD will be drilled into the A-1 Carbonate. The well will then be completed with a multi-stage stimulation in the A-1 Carbonate. The Surface location is 1583' FNL and 1700' FEL of Section 7 and the planned BHL of the horizontal drain hole is 331' FSL and 331' FWL of Section 7.

This well will be drilled near a gas storage field and the state minimum design factors were taken into consideration when designing our casing plan. Our company's internal factors were also taken into account (higher in some cases than the state requirements listed in MCL 324.413).

Attached are permit applications to drill the Schick 1-7P pilot hole and the Schick 1-7HD horizontal drain hole. Devon Energy is requesting permission pursuant to Rule 324.303 to form a development unit for this well comprising several drilling units. See attached voluntary pooling documentation.

Also note that the pilot hole will not be completed in any formation and no portion of the horizontal drain hole in the A-1 Carbonate will be completed (perforated) closer than 330' from the drill unit/pool boundary.

A directional drilling plan is attached to the drain hole permit application.

Should you need additional information, please call me at (405) 552-8196.

Very truly yours,

DEVON ENERGY PRODUCTION COMPANY, L.P.

DNRE Water Resources - Spatial Interests - Database Browser

2/16/2012

Spatial Location Lookup:**19N, 03W**

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

New Search**Spatial Resources:**

- SiteMap
- CSS - Center for Shared Solutions & Technology Partnerships
- Lat/Long Search
- Terra Server
- Mapquest
- Bing Maps
- TopoZone

Spatial Data:

- Geographic Data Library
- Geo Data

Help**Spatial Interest Search****19N, 03W Section:7****Spatial Mapping Resources**

MapQuest - Internet Mapping and Imagery
 TopoZone - Internet Topographic Quads
 CSS MapMichigan mapping resource

CIWPIS Special Interests

Organization	Description	Comment
Remediation & Redevelopment	Part 201 Site ID	18000090

CIWPIS Permits

Permit Number	Applicant	Activity
78080001		Culverts
92070181	Bill Sclesky	Dams

Inventory of Dams

ID Number	Name of Dam	Impoundment
2214	Warner Dam	

Flood Discharge Requests

File Number	Watercourse	Location
20020249-2	Cranberry Creek	Warner Dam # 2214
20070268	Cranberry Creek	Warner Dam
D-02214	Cranberry Creek	Warner Dam # 2214

Drinking Water Supply Wells

Well ID	Well Owner	Well Depth
18000002025	WEAKLAND, BRIAN S.	49
18000002026	WEAKLAND, BRIAN S.	190
18000002027	PRIMARK STORAGE & LEASING	64
18000002028	BENNETT, CHARLES	75
18000007908	WILLIAM SCLESKY	80

1**My Town, Range and Section are:**

19N	03W	7
-----	-----	---

Use the Spatial Location Lookup for resolving place names into Town and Range.

2**Begin Search:**

A search requires the Town, Range and Section values.

Spatial Interest Data:

Data is retrieved from various DNRE SQL databases. The data displayed here is only those data sets which have been made available to Intranet users to search and have records matching the town, range and section criteria. To include additional data bases to this search page please have the appropriate IT staff contact DEQ-Webmaster@michigan.gov.

WATER WITHDRAWAL ASSESSMENT TOOL **Print****Withdrawal Report - 2/17/2012 3:21:56 PM**

The proposed withdrawal has 'PASSED' the screening process.

RESULTS:

The proposed withdrawal has passed the screening process. The projected impact of the withdrawal lies within 'Zone A' and is not likely to cause an adverse resource impact.

REGISTRATION:

A large quantity withdrawal (LQW) with a capacity of 70 GPM or greater must be registered with the Michigan Department of Environmental Quality, or with the Michigan Department of Agriculture if the LQW is for an agricultural purpose, before the withdrawal can begin. A registration is valid for 18 months. The withdrawal capacity must be installed within this time period or the registration becomes void. Registration may be done at this time through the button at the right.

You may register at this time, or come back to this site at a later time, or you may obtain a form to register the withdrawal by contacting Andrew LeBaron at 517-241-1435, or on-line at: www.michigan.gov/deqwateruse

Summary

Watershed ID:	21589
Pumping Capacity (GPM):	500
Estimated Removal (GPM):	114
Well Depth (FT):	25
Well Type:	Ground Water
Aquifer Type:	Glacial
Pumping Frequency:	Intermittent
Numeric Months:	6, 7, 8
Days/Week:	4
Hours/Day:	12
Latitude:	44.056775
Longitude:	-84.713961

DISCLAIMER:

The Water Withdrawal Assessment Tool is designed to estimate the likely impact of a proposed water withdrawal on nearby streams. It is not an indication of how much groundwater may be available for your use. The quantity and quality of groundwater varies greatly with depth and location. You should consult with a water resources professional or a local well driller about groundwater availability at your location.

Institute of Water Research, all rights reserved © 2006

WATER WITHDRAWAL ASSESSMENT TOOL Print

Withdrawal Report - 2/17/2012 3:19:14 PM

The proposed withdrawal has 'PASSED' the screening process.

RESULTS:

The proposed withdrawal has passed the screening process. The projected impact of the withdrawal lies within 'Zone A' and is not likely to cause an adverse resource impact.

REGISTRATION:

A large quantity withdrawal (LQW) with a capacity of 70 GPM or greater must be registered with the Michigan Department of Environmental Quality, or with the Michigan Department of Agriculture if the LQW is for an agricultural purpose, before the withdrawal can begin. A registration is valid for 18 months. The withdrawal capacity must be installed within this time period or the registration becomes void. Registration may be done at this time through the button at the right.

You may register at this time, or come back to this site at a later time, or you may obtain a form to register the withdrawal by contacting Andrew LeBaron at 517-241-1435, or on-line at: www.michigan.gov/deqwateruse

Summary

Watershed ID:	21589
Pumping Capacity (GPM):	500
Estimated Removal (GPM):	89
Well Depth (FT):	76
Well Type:	Ground Water
Aquifer Type:	Glacial
Pumping Frequency:	Intermittent
Numeric Months:	6, 7, 8
Days/Week:	4
Hours/Day:	12
Latitude:	44.056775
Longitude:	-84.713961

DISCLAIMER:

The Water Withdrawal Assessment Tool is designed to estimate the likely impact of a proposed water withdrawal on nearby streams. It is not an indication of how much groundwater may be available for your use. The quantity and quality of groundwater varies greatly with depth and location. You should consult with a water resources professional or a local well driller about groundwater availability at your location.

Institute of Water Research, all rights reserved © 2006

WATER WITHDRAWAL ASSESSMENT TOOL Print

Withdrawal Report - 2/17/2012 3:20:49 PM

The proposed withdrawal has 'PASSED' the screening process.

RESULTS:

The proposed withdrawal has passed the screening process. The projected impact of the withdrawal lies within 'Zone A' and is not likely to cause an adverse resource impact.

REGISTRATION:

A large quantity withdrawal (LQW) with a capacity of 70 GPM or greater must be registered with the Michigan Department of Environmental Quality, or with the Michigan Department of Agriculture if the LQW is for an agricultural purpose, before the withdrawal can begin. A registration is valid for 18 months. The withdrawal capacity must be installed within this time period or the registration becomes void. Registration may be done at this time through the button at the right.

You may register at this time, or come back to this site at a later time, or you may obtain a form to register the withdrawal by contacting Andrew LeBaron at 517-241-1435, or on-line at: www.michigan.gov/deqwateruse

Summary

Watershed ID:	21589
Pumping Capacity (GPM):	347
Estimated Removal (GPM):	62
Well Depth (FT):	76
Well Type:	Ground Water
Aquifer Type:	Glacial
Pumping Frequency:	Intermittent
Numeric Months:	6, 7, 8
Days/Week:	4
Hours/Day:	12
Latitude:	44.056775
Longitude:	-84.713961

DISCLAIMER:

The Water Withdrawal Assessment Tool is designed to estimate the likely impact of a proposed water withdrawal on nearby streams. It is not an indication of how much groundwater may be available for your use. The quantity and quality of groundwater varies greatly with depth and location. You should consult with a water resources professional or a local well driller about groundwater availability at your location.

Institute of Water Research, all rights reserved © 2006



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

March 9, 2012

Mr. Thomas F. Worth, P.S.
Devon Energy Production Company, LP
C/O Worth Surveying
P.O. Box 4003
Jackson, Michigan 49204

Dear Mr. Worth:

SUBJECT: Application for Administrative Spacing Exception
Schick 1-7 Pilot and 1-7 HD1 well
Hamilton Township, Clare County

Thank you for your application received February 15, 2012, and subsequent revision received March 5, 2012, for an administrative spacing exception. Devon Energy Production Company, L.P. (Devon) has requested a 480-acre Salina A1 Carbonate Formation drilling unit described as follows for the drilling of the Schick 1-7 Pilot and Schick 1-7 HD1 well

Township 19N, Range 3W
Hamilton Township, Clare County
Section 7: S/2, W/2 NW/4, SE/4 NW/4, SW/4 NE/4

The proposed drilling unit is an exception to the applicable spacing provisions of R 324.301 of Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and is requested pursuant to R 324.303(2), Voluntary Pooling, of Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

Staff of the Office of Oil, Gas, and Minerals (OOGM) has reviewed Devon's proposal and find that it meets the requirements of R 324.303(2) of the NREPA. The OOGM has received Devon's Declaration of Oil and Gas Pooling, a listing of all mineral interests, and a certified statement (Affidavit in Support of Application) that all minerals are leased and have been voluntarily pooled. The OOGM hereby approves the 480-acre drilling unit. Modification of this unit any time before the subject wells are plugged and abandoned shall require approval of the OOGM. Future re-drills or alternate plans for development will require a separate approval for a drilling unit exception.



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY—OFFICE OF GEOLOGICAL SURVEY

APPLICATION FOR VOLUNTARILY POOLED SPACING UNIT: ANTRIM USP or RULE 303 EXCEPTION

Use of this form is recommended for approval of a voluntarily pooled, expanded well spacing unit pursuant to R 324.303 of Part 615, 1994 PA 451, as amended or Antrim Uniform Spacing Plan under Order (A)14-9-94, special spacing order for Antrim Shale Formation gas wells. Falsification of this information may result in fines and/or imprisonment. Check all boxes and fill in all blanks which apply. See additional instructions on the other side. Attach additional pages as necessary. If the exception is approved, you will receive confirmation by letter.

1. Attach the following documents to this Application:

- List of the names of all mineral and working interest owners in the proposed unit. Include a statement as to which of the interests requires a ratification of pooling. (such as State of Michigan leases)
- Large scale project map (e.g. 1"—1000'), drawn to scale, of the proposed unit and development. Identify all drilled, permitted, and proposed wells. Identify all wells in the drilling units adjoining the proposed unit.
- Certified copy of the executed pooling or communitization agreement which comprises or includes the entire proposed unit.
- Certified copy of pooling ratifications, if required to pool leases.
- Certified statement by a knowledgeable person that all mineral interests within the unit are leased & controlled by the applicant AND that these interests are voluntarily pooled pursuant to the authority granted in the leases or by an owner's ratification of the pooling.

2. Applicant's name and address:

Devon Energy Production Company, L.P.
Attn: Mike Feroli
20 N. Broadway
Oklahoma City, Oklahoma, 73102

Contact name and telephone number:

Mike Feroli
405-552-8196

3. Well name(s), well number, current status:

Attach list of the data in 3. and 4. if more convenient

Schick 1-7 P & Schick 1-7 HD

4. Permit number(s):

(if permit(s) issued)

5. Applicable spacing: Check the USP or Rule 303 box below, then, if a Rule 303 exception, indicate the applicable spacing rule.

☐ Application for Uniform Spacing Plan pursuant to S.O. (A)14-9-94 Antrim Shale Formation spacing order
or

☒ Application for Rule 303 unit exception pursuant to R 324.303 of Part 615, 1994 PA 451, as amended. Please indicate below the appropriate spacing rule or order for the area of the proposed pooled unit and objective formation.

☐ S.O. (A)14-9-94 northern Michigan Antrim, 80 acres

☐ S.O. (A)3-3-95 southern Mich. Antrim, 40 acres

☐ S.O. 1-73 Niagaran, 80 acres

☐ S.O. 2-81 Oakland Co. Niagaran, 40 acres

☐ S.O. 18-2007 Trenton-Black River, 40 acres

☐ S.O. 1-86 Prairie du Chien, 640 acres

☒ R 324.301 General rule, 40 acres

☒ Exploratory ☐ Development (identify well spacing pattern): _____

☐ Field Spacing or Unitization Order (identify order) _____

6. Unit description: Provide the legal description of the lands proposed for the voluntarily pooled unit.

Township 19N-R3W, Hamilton Township, Clare County
Section 7: The South $\frac{1}{2}$; AND the West $\frac{1}{2}$ of the Northwest $\frac{1}{4}$; AND the Southeast $\frac{1}{4}$ of the Northwest $\frac{1}{4}$ & the Southwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$.

7. Number of acres in proposed unit:

Nominal:
40480

Actual:
505

8. Exploration or development plans: Identify what the development plans for the unit will be.

The development plan for the proposed drilling unit is to drill the Schick 1-7 P pilot hole and the Schick 1-7 HD, a horizontal drain hole, into the A-1 Carbonate with the likelihood of drilling a second horizontal well in the future if necessary. If successful, two horizontal wells in the drilling unit should efficiently drain the proposed targeted reservoir.

9. Describe how the proposed plan of development satisfies the 4 conditions required in Rule 303(2):

(Not applicable to Antrim USP exceptions)

a. Waste is prevented; b. The drilling of unnecessary wells is prevented; c. A well is not closer than 330' from a unit boundary & is not closer than 660' from adjacent wells; d. The distance between wells prevents interference.

Horizontal drilling technology and procedures have proven to be more efficient in developing natural gas resources, which will prevent waste in the areas of production equipment, road and other land surface use as well as the operation and drilling of unnecessary vertical wells. The elimination of drilling unnecessary wells will also minimize vehicle traffic on the surrounding highways, streets and roads, and the materials and services that correspond to drilling additional wells. There are no wells closer than 660' to the Schick 1-7 HD well. In addition, no production will be made any closer than 330' from the unit boundary line.

10. CERTIFICATION

"I state that I am authorized by said Applicant to prepare this application. It was prepared by me or under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge. Any document attached to this application is either the original document or a true and correct copy of the original."



Thomas F. Worth, P.S.

Authorized Signature

February 8, 2012

Date

Mail Application form and attachments to:

Office of Geological Survey
Michigan Dept of Environmental Quality
P.O. Box 30256
Lansing, MI 48909-7756

INSTRUCTIONS FOR COMPLETING FORM EQP 7200-23: For a Rule 303 exception for the drilling of a single well, please enclose this form with your Application for Permit to Drill. If you have questions contact Dave Davis at 517 241-1529.

1. **Attachments.** Attach all of the listed documents with this form. Please do not enclose copies of any lease. Exceptions to the requirements: 1b. If the spacing exception is for a single well, a copy of the well permit application surveyor's plat is acceptable. For an Antrim USP, a copy of the project plan map is sufficient. 1c. If a single lease covers the proposed unit, a pooling agreement is not applicable. However, to document the applicant's intentions, a "Declaration of Unit" is required. Please contact OGS for assistance.

2. **Applicant's name.** The spacing exception applicant must be the same as the applicant and permittee of the wells in the proposed unit.

3. **Well names.** List the well names and numbers and current well status for the wells in the proposed unit or planned for the unit.

4. **Permit numbers.** List the DEQ permit numbers for the wells in #3 above. A page listing the information in #3 and #4 may be attached.

5. **Applicable spacing.** Indicate whether your application is for an Antrim USP or Rule 303 unit exception. If for a Rule 303 exception, check the box next to the spacing rule controlling the location and spacing of wells in the geographical area and target formation of the exception request. Note: The Antrim spacing order is listed because under certain circumstances, a Rule 303 exception can apply. See 'General Spacing Orders' on the OGS Oil & Gas web pages. If in doubt, contact the OGS Permits & Bonding Unit at 517 241-1528.

6. **Drilling unit description.** Describe the lands within the proposed unit in writing. Please note: If the voluntarily pooled area encompasses lands outside the proposed unit, do not include them in this description. The information should include county name, township name, townline & range numbers & directions, section numbers, & fractions of sections included in the unit. For a Rule 303 exception, the unit must be put together using multiples of the full drilling unit as specified in the applicable spacing rule. For an Antrim USP, the USP must be assembled from ¼ ¼ sections of land. Proposed Rule 303 pooled units or USPs cannot contain "islands" of unpooled land.

7. **Number of acres.** Show the total nominal & total actual acres in the proposed unit. For Rule 303, the nominal acreage must be a whole multiple of the drilling unit size for the applicable spacing rule in effect. For a USP, the nominal acreage is a whole number multiple of 40 acres. (count each regular or fractional ¼ ¼ section as 40 acres)

8. **Exploration or development plans.** Describe plans for developing the proposed unit. Are wells beyond what are currently proposed likely to be drilled? Explain why the spacing exception is necessary for the development.

9. **Describe how the proposed plan of development satisfies the 4 conditions required in Rule 303(2).** Answer parts a. through d.

Parts c. & d. can be left unanswered if the proposed unit is for the drilling of a single well. Setback distances are measured from bottom hole locations. This information is not required for Antrim Uniform Spacing Plan exceptions.

PLEASE NOTE. Approval of a Rule 303 voluntary pooling request alters well spacing only. Proration allowables cannot be changed. Any future re-drills or alternate plans of development will require a separate approval. A Rule 303 unit remains effective until production ceases.

Special Spacing Order (A)14-9-94 can be accessed at:

http://www.michigan.gov/documents/deq/ogs-oilandgas-spacing-14-9-94_258034_7.pdf

R 324.303 Voluntary pooling. Reads as follows:

Rule 303. (1) The lessees or lessors, or both, of separate tracts or mineral interests that lie partially or wholly within an established drilling unit or larger area may pool or communitize the tracts or interests to form full drilling units or multiples of full drilling units and to develop the units pursuant to the provisions of these rules and the applicable orders of the supervisor.

(2) Persons who pool or communitize the tracts or interests may submit an application to the supervisor to abrogate spacing within the pooled or communitized area. The application shall include a certified copy of the pooling or communitization agreement and the plans for exploration or development. The supervisor may approve the application if all of the following conditions are satisfied: (a) Waste is prevented. (b) The drilling of unnecessary wells is prevented. (c) A well is not located closer than 330 feet from the pooled or communitized area boundary or closer than 660 feet from adjacent wells. (d) The distance between wells prevents interference.

(3) The lessees and lessors of separate tracts or mineral interests that lie partially or wholly within an area encompassing 2 or more full drilling units may voluntarily pool the tracts or interests to form a development unit for the purpose of receiving a permit for a well as an exception to R 324.301 or special spacing orders adopted pursuant to R 324.302, if the bottom hole location of the well is found by the supervisor to ensure each producer is afforded the opportunity to use his or her just and equitable share of the reservoir energy and to prevent waste, including the drilling of unnecessary wells.

EQP 7200-23 (rev. 3/2011)

Attachment to Rule 303 Spacing Exception filed by Devon Energy Production Company,
L.P. for the Schick 1-7H Well, T19N-R3W Section 7, Hamilton Twp., Clare Co., MI

WORKING INTEREST OWNERS

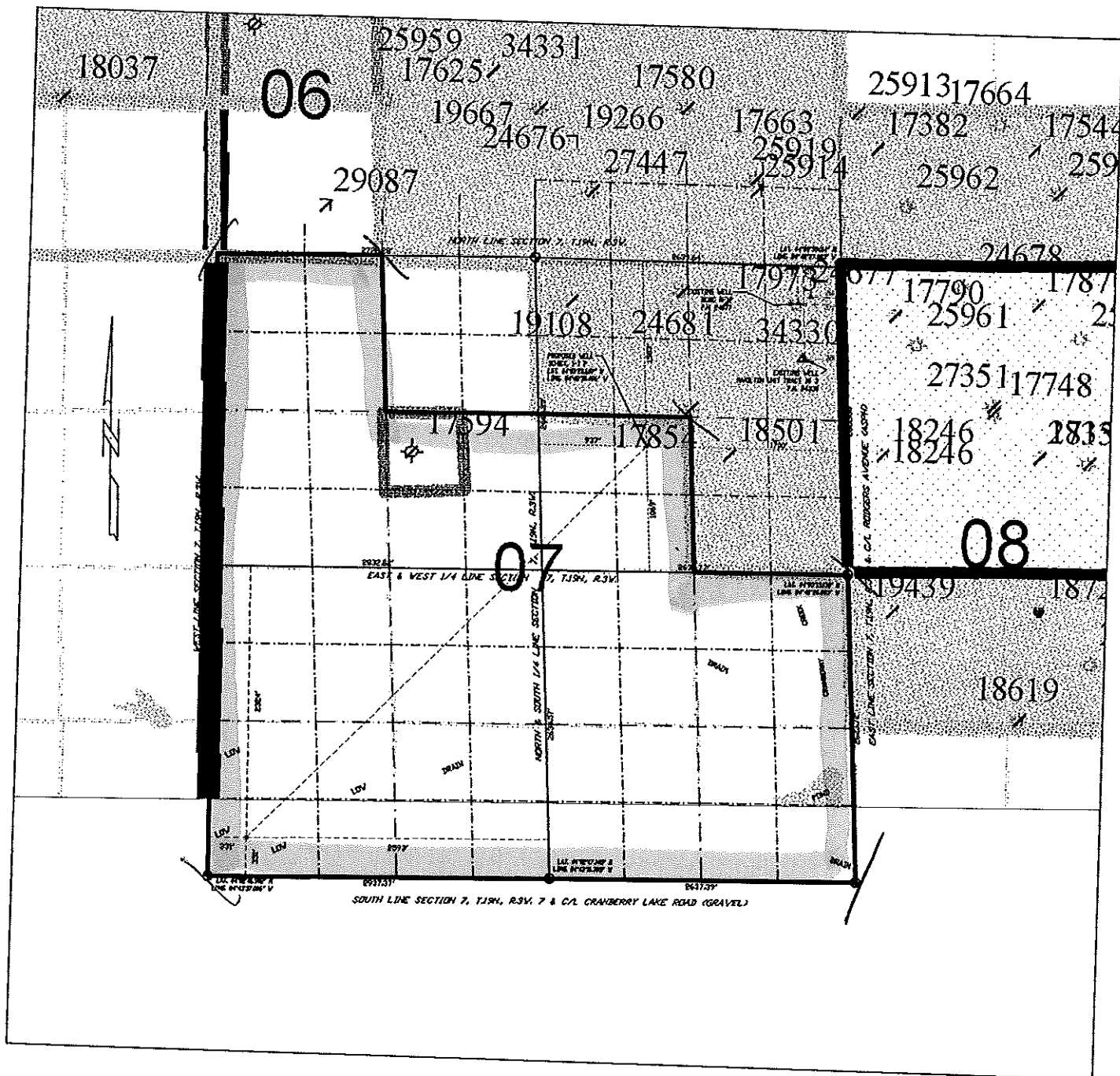
Devon Energy Production Company, L.P.

MINERAL INTERST OWNERS

1. Charles A. Deibel and Margaret M. Deibel, Trustees under the Charles and Margaret Deibel Living Trust dated November 20, 1992
- 2 . Daniel R. Gubachy, as Trustee of the Daniel Gubachy Trust dated September 22, 2006
3. Merle H. Enszy and Janet K. Enszy, husband and wife
4. Levine A. Bennett, Melinda L. Bennett, Michael L. Bennett and Marlene B. Enck, as joint tenants
5. Thomas J. Schick, a single man
6. John L. Schick and Louise G. Schick, husband and wife,
7. The Estate of Edward Warner, Deceased
8. William J. Sclesky, a single man

None of the leases executed by the above parties require ratification of the Declaration of Pooling or the Amendment to Declaration of Pooling

DEVON ENERGY PRODUCTION CO., L.P.
 SCHICK, 1-7 P
 NE. 1/4 of S.W. 1/4 of NE. 1/4 of
 SECTION 7, T.19N, R.3W., HAMILTON TOWNSHIP,
 CLARE COUNTY, MICHIGAN
 SCALE - NONE



DRAWN BY: AWA

DATE: 8-FEB-12

APPROVED BY:

WORTH SURVEYING

P.O. BOX 4003
 JACKSON, MI 49204
 (517)788-9806

201200000527
Filed for Record in
CLARE COUNTY MICHIGAN
PAMELA MAYFIELD
01-25-2012 At 02:44 pm.
DECI/FDOL 20.00
OR Liber 1187 Page 516 - 516

201200000527
SMETZER LAND SERVICES
PO BOX 1122
GAYLORD MI 49734

DECLARATION OF POOLING

STATE OF MICHIGAN)
) ss:
COUNTY OF CLARE)

Instrument Liber Page
201200000527 OR 1187 516

This Declaration of Pooling dated this the 11th day of January, 2012, is executed by Smetzer Land Services, Inc., a Michigan corporation, of P.O. Box 1122, Gaylord, MI 49734, (hereinafter called "Lease Owner"), to establish a pooled unit as follows:

WHEREAS, Lease Owners are the owners and holders of the following described oil, gas and mineral leases insofar as they cover the tracts of land in Clare County, Michigan, as hereinafter particularly described:

- Item 1 Oil and Gas Lease dated May 3, 2011, between Levine A. Bennett, a widow, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 188, of the Lease Records of Clare County, Michigan as therein described;
- Item 2 Oil and Gas Lease dated May 5, 2011, between Marlene B. Enck, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 168, of the Lease Records of Clare County, Michigan as therein described;
- Item 3 Oil and Gas Lease dated May 5, 2011, between Michael L. Bennett, a single man, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 178, of the Lease Records of Clare County, Michigan as therein described;
- Item 4 Oil and Gas Lease dated May 5, 2011, between Melinda L. Bennett, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 183, of the Lease Records of Clare County, Michigan as therein described;
- Item 5 Oil and Gas Lease dated September 24, 2011, between Thomas J. Schick, a single man, and John L. Schick and Louise G. Schick, husband and wife, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 829, of the Lease Records of Clare County, Michigan as therein described;
- Item 6 Oil and Gas Lease dated May 2, 2011, between Merle H. Ensz and Janet K. Ensz, husband and wife, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 203, of the Lease Records of Clare County, Michigan as therein described;
- Item 7 Oil and Gas Lease dated April 29, 2011, between Susan Warner, a widow, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 198, of the Lease Records of Clare County, Michigan as therein described;
- Item 8 Oil and Gas Lease dated June 25, 2011, between William J. Sclesky, a single man, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 173, of the Lease Records of Clare County, Michigan as therein described;
- Item 9 Oil and Gas Lease dated April 25, 2011, between Charles A. Deibel and Margaret A. Deibel, Trustees under the Charles and Margaret Deibel Living Trust dated November 20, 1992, as Lessor and Smetzer Land Services, Inc., as

Lessee, recorded in Liber 1176, Page 193, of the Lease Records of Clare County, Michigan as therein described;
Item 10 Oil and Gas Lease dated May 10, 2011, between Daniel R. Gubachy, as Trustee of the Daniel Gubachy Trust dated September 22, 2006, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 208, of the Lease Records of Clare County, Michigan as therein described;

WHEREAS, pursuant to the rights and powers granted in the above described leases, Lease Owners hereby desire to establish a unit consisting of the following described lands:

Township 19 North, Range 3 West, Hamilton Township, Clare County, MI
Section 7: NW/4 NW/4; S/2 NW/4; SW/4 NW/4; SW/4; SE/4

hereinafter sometimes referred to as the "Pooled Unit";

NOW, THEREFORE, Smetzer Land Services, Inc., does hereby execute this instrument as a Declaration of Pooling pursuant to the powers to pool contained in the above described leases and hereby declare that the above described leases and all royalties, overriding royalties, production payments and reversionary rights thereunder, if any, insofar only as said leases cover and apply to oil and or gas as to all depths and formations in and under said Pooled Unit, are hereby pooled and shall comprise all of NW/4 NW/4; S/2 NW/4; SW/4 NW/4; SW/4; SE/4 of Section 7, T19N-R3W, Hamilton Township, Clare County, Michigan.

"Oil and or gas" is any oil, natural gas, distillate, casinghead gas, condensate and all other hydrocarbons of whatsoever nature or kind and are hereby pooled by this instrument. The word "gas", as used herein, shall also mean production of all gaseous hydrocarbons, and the liquid hydrocarbons produced therewith, from all wells located on said Pooled Unit.

This Declaration of Pooling may be executed in any number of counterparts, each of which shall be identical and considered an original for all purposes; provided the Lease owners need not execute the same counterpart(s), and signature and acknowledgment pages of separate counterparts may be incorporated into one document for the purpose of recording such document in the Register of Deeds office of Clare County, Michigan.

EFFECTIVE as of the date first set out above.

Smetzer Land Services, Inc., a Michigan corporation

By: Jeffrey A. Smetzer
Jeffrey A. Smetzer, President

ACKNOWLEDGMENT

THE STATE OF MICHIGAN §
COUNTY OF OTSEGO §

The foregoing instrument was acknowledged before me this 11th day of January, 2011, by Jeffrey A. Smetzer, President of Smetzer Land Services, Inc., a Michigan corporation on behalf of the said corporation.

My Commission Expires: November 23, 2014

Melissa Greif
Melissa Greif
Notary Public, State of Michigan
Notary in Otsego Co., MI
Acting in Otsego Co., MI

Prepared by:
Jeffrey A. Smetzer
Smetzer Land Services, Inc.
PO Box 1122
Gaylord, MI 49734-1122

SUPERSEDING DECLARATION OF POOLING

(Supersedes instrument filed in the Clare County Records Liber 1187, Page 516)

STATE OF MICHIGAN)
) ss:
COUNTY OF CLARE)

This Superseding Declaration of Pooling dated the 11th day of January, 2012, is executed by Devon Energy Production Company, L.P., an Oklahoma limited partnership, whose address is 20 N. Broadway, Oklahoma City, Oklahoma 73102, (hereinafter called "Lease Owner"), to establish a pooled oil and/or gas unit as follows:

WHEREAS, Lease Owner is the owner and holder of the following described oil, gas and mineral leases insofar as they cover the tracts of land in Clare County, Michigan, as hereinafter particularly described:

- Item 1
- a) DEPCO #21-3003679-006: Oil and Gas Lease dated September 24, 2011, between Thomas J. Schick, a single man, and John L. Schick and Louise G. Schick, husband and wife, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 829, Register of Deeds' Office, Clare County, Michigan, as therein described;
 - b) DEPCO #21-3003679-005: Oil and Gas Lease dated May 5, 2011, between Marlene B. Enck, as Lessor, and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 168, Register of Deeds' Office, Clare County, Michigan, as therein described;
 - c) DEPCO #21-3003679-004: Oil and Gas Lease dated May 5, 2011, between Melinda L. Bennett, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 183, Register of Deeds' Office, Clare County, Michigan, as therein described;
 - d) DEPCO: #21-3003679-003: Oil and Gas Lease dated May 3, 2011, between Levine A. Bennett, a widow, as Lessor, and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 188, Register of Deeds' Office, Clare County, Michigan, as therein described;
 - e) DEPCO #21-3003679-002: Oil and Gas Lease dated May 5, 2011, between Michael L. Bennett, a single man, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 178, Register of Deeds' Office, Clare County, Michigan, as therein described;
 - f) DEPCO #21-3003679-001: Oil and Gas Lease dated May 2, 2011, between Merle H. Enszt and Janet K. Enszt, husband and wife, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 203, Register of Deeds' Office, Clare County, Michigan, as therein described;

the above described six leases under this Item 1 covering 120 acres of land, more or less, out of Section 7, Township 19N, Range 3W, Clare County, Michigan, as therein described, being hereinafter sometimes referred to as the "Schick et al Leases";

Item 2 a) DEPCO #21-3003676-001: Oil and Gas Lease dated April 29, 2011, between Susan Warner, a widow, as Lessor, and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 198, Register of Deeds' Office, Clare County, Michigan, as therein described;

b) DEPCO #21-3003676-002: Oil and Gas Lease dated June 25, 2011, between William J. Sclesky, a single man, as Lessor and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 173, Register of Deeds' Office, Clare County, Michigan as therein described;

the above described two leases under this Item 2 covering 80 acres of land, more or less, out of Section 7, Township 19N, Range 3W, Clare County, Michigan, as therein described, being hereinafter sometimes referred to as the "Warner et al Leases";

Item 3 DEPCO #21-3003681-000: Oil and Gas Lease dated April 25, 2011, between Charles A. Deibel and Margaret A. Deibel, Trustees under the Charles and Margaret Deibel Living Trust dated November 20, 1992, as Lessor, and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 193, Register of Deeds' Office, Clare County, Michigan, covering 257 acres of land, more or less, out of Section 7, Township 19N, Range 3W, Clare County, Michigan, as therein described; said lease being hereinafter sometimes referred to as the "Deibel Lease";

Item 4 DEPCO #21-3003677-000: Oil and Gas Lease dated May 10, 2011, between Daniel R. Gubachy, as Trustee of the Daniel Gubachy Trust dated September 22, 2006, as Lessor, and Smetzer Land Services, Inc., as Lessee, recorded in Liber 1176, Page 208, Register of Deeds' Office, Clare County, Michigan, covering 48 acres of land, more or less, out of Section 7, Township 19N, Range 3W, Clare County, Michigan, as therein described; said lease being hereinafter sometimes referred to as the "Gubachy Lease";

WHEREAS, pursuant to the rights and powers granted in the above described leases, as said leases may have been amended, Lease Owner desires hereby to establish a 505-acre oil and/or gas unit consisting of the above described leases insofar only as they cover and apply to oil and/or gas produced from all depths and formations in and under the following described 505 acres of land, consisting of the following tracts:

Tract 1: 120 acres, more or less, being all of the lands covered by the Schick et al Leases;

Tract 2: 80 acres, more or less, being all of the lands covered by the Warner et al Leases;

Tract 3: 257 acres, more or less, being all of the lands covered by the Deibel Lease;

Tract 4: 48 acres, more or less, being all of the lands covered by the Gubachy Lease.

The 505 acres of land as herein included in this oil and/or gas unit being hereinafter sometimes referred to as the "505-acre pooled unit";

NOW, THEREFORE, Lease Owner executes this instrument as a Superseding Declaration of Pooling pursuant to the powers to pool contained in the

above described leases, as said leases may have been amended, and hereby declares that the above described leases and all royalties, overriding royalties, production payments and reversionary rights thereunder, if any, insofar only as said leases cover and apply to oil and/or gas as to all depths and formations are hereby pooled and combined and shall comprise a 505-acre oil and/or gas unit. This Superseding Declaration of Pooling replaces and supersedes that certain Declaration of Pooling dated January 11, 2012, and filed in the Clare County, Michigan, Register of Deeds' Office at Liber 1187, Page 516.

"Oil and or gas", as used herein, shall mean the production of all oil, natural gas, distillate, casinghead gas, condensate and all other hydrocarbons of whatsoever nature or kind including without limitation, gaseous hydrocarbons and liquid hydrocarbons produced therewith, from all wells located on said 505-acre pooled unit.

There is attached hereto a plat of the land included in this pooled unit, such plat being for the purpose of assisting in the location of such land upon the ground in the event there is any inconsistency or insufficiency in the description hereinabove set forth of the land intended hereby to be included, and which is hereby included, in said 505-acre pooled unit.

EFFECTIVE as of the date first set out above.

Devon Energy Production Company, L.P. *KE*

By: *Bill A. Penhall*
Bill A. Penhall, Agent and Attorney in Fact *SL*

THE STATE OF OKLAHOMA §
§
COUNTY OF OKLAHOMA §

The foregoing instrument was acknowledged before me this 24th day of February, 2012, by Bill A. Penhall, Agent and Attorney in Fact for Devon Energy Production Company, L.P., an Oklahoma limited partnership, on behalf of the said limited partnership.

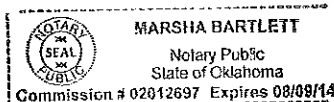
My Commission Expires:

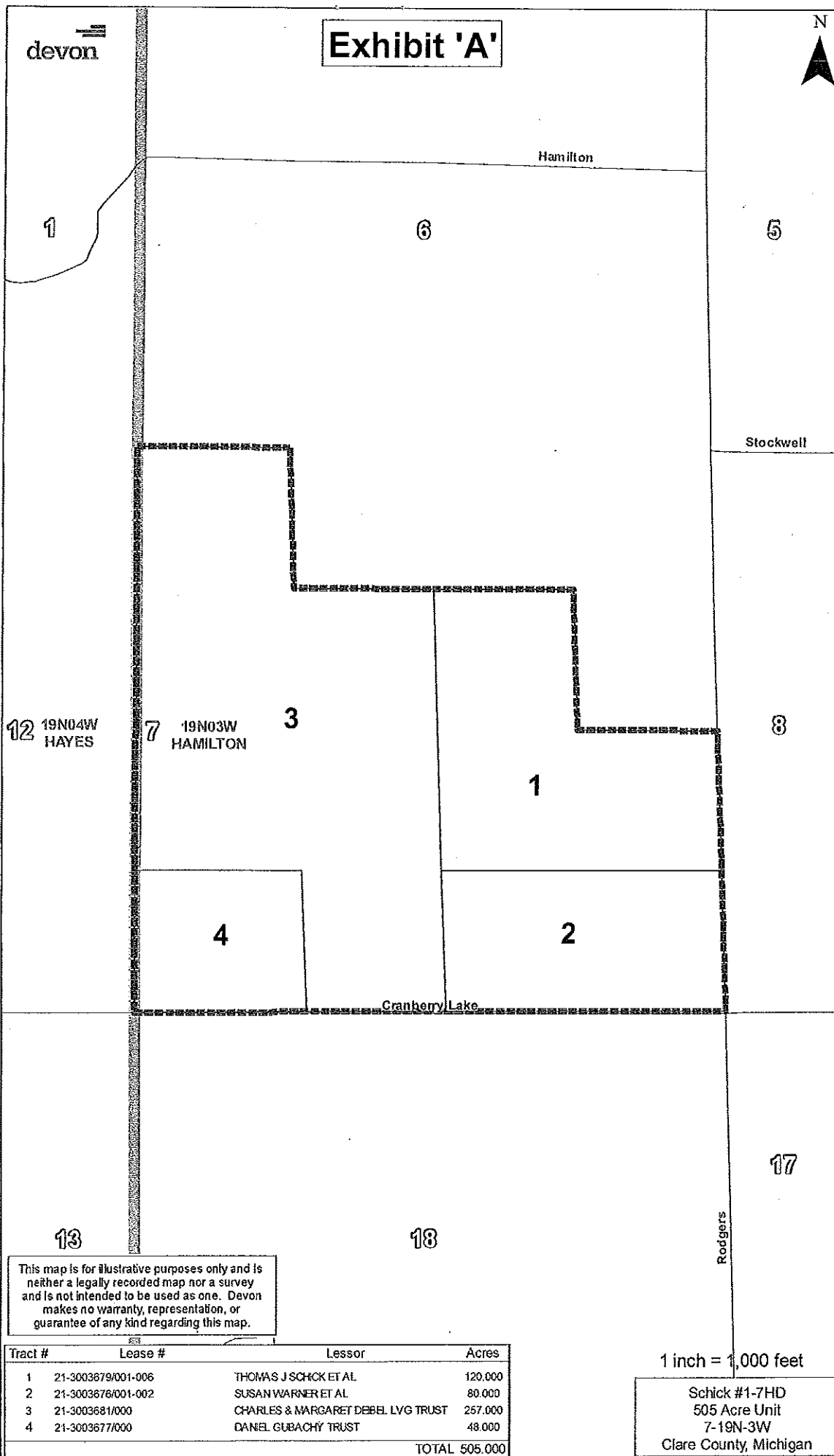
8-9-14

Marsha Bartlett
Notary Public, State of Oklahoma

Prepared by and Return to:

Kent Loeffler
Devon Energy Production Company, L.P.
20 N. Broadway
Oklahoma City, Oklahoma 73102





**SMETZER
LAND SERVICES, INC.**

989-731-0590 • FAX 989-732-5239 • P.O. Box 1122, Gaylord, MI 49734-1122

March 5, 2012

Mr. Mark J. Snow
Permit Coordinator - Geologist
Department of Environmental Quality
Resource Management Division
PO Box 30256
Lansing, MI 48909

Re: Schick # 1-7 HD
T19N, R3W, Section 7
Hamilton Township, Clare County, Michigan

Dear Mark:

As per your request, this letter is being sent to confirm the description of the subject unit description on behalf of Devon. Here is the description:

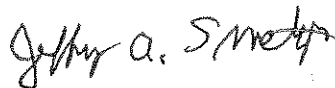
Township 19 North, Range 3 West, Hamilton Twp, Clare County, Michigan
Section 7: NW/4 NW 1/4; SW/4 NW 1/4; SE/4 NW 1/4; SW/4 NE/4; NW/4
SW 1/4; NE/4 SW 1/4; SW/4 SW 1/4; SE/4 SW 1/4; NW/4 SE/4; NE/4 SE/4;
SW/4 SE/4; SE/4 SE/4

Please refer to the map attached to the Superseding Declaration of Pooling that was sent to you that lists the acreage of each tract identified by lease on the instrument.

Please let me know if you need anything further regarding this matter.

Very Truly Yours,

Smetzer Land Services, Inc.



Jeffrey A. Smetzer
President

RECEIVED

MAR 08 2012

DEQ-RMD
Office of Oil, Gas & Minerals

**SMETZER
LAND SERVICES, INC.**

989-731-0590 • FAX 989-732-5239 • P.O. Box 1122, Gaylord, MI 49734-1122

March 5, 2012

Mr. Mark J. Snow
Permit Coordinator - Geologist
Department of Environmental Quality
Resource Management Division
PO Box 30256
Lansing, MI 48909

Re: Schick # 1-7 HD
T19N, R3W, Section 7
Hamilton Township, Clare County, Michigan

Dear Mark:

As per your request, this letter is being sent to confirm the description of the subject unit description on behalf of Devon. Here is the description:

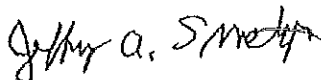
Township 19 North, Range 3 West, Hamilton Twp, Clare County, Michigan
Section 7: NW/4 NW 1/4; SW/4 NW 1/4; SE/4 NW 1/4; SW/4 NE/4; NW/4 SW 1/4; NE/4 SW 1/4; SW/4 SW 1/4; SE/4 SW 1/4; NW/4 SE/4; NE/4 SE/4; SW/4 SE/4; SE/4 SE/4

Please refer to the map attached to the Superseding Declaration of Pooling that was sent to you that lists the acreage of each tract identified by lease on the instrument.

Please let me know if you need anything further regarding this matter.

Very Truly Yours,

Smetzer Land Services, Inc.



Jeffrey A. Smetzer
President

State of Michigan
Department of Natural Resources and Environment
Before the Supervisor of Wells

Affidavit in support of application of Devon Energy Production Company, L.P. to abrogate spacing pursuant to R324.303(2) of Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, Act No. 451 of the Public Acts of 1994, as amended for a 505 acre pooled unit described as:

T19N-R3W, Hamilton Township, Clare County, Michigan

Section 7: The South $\frac{1}{2}$; AND the West $\frac{1}{2}$ of the Northwest $\frac{1}{4}$; AND the Southeast $\frac{1}{4}$ of the Northwest $\frac{1}{4}$; AND the Southwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$ for the Schick1-7 well.

NOW COMES ("Affiant"), in support of the Application of Devon Energy Operating Company, LP ("Applicant"), in the above referenced matter for the abrogation of Spacing under Rule 303(2) within a pooled area and for the well described above; and he, being first duly sworn, deposes and represents unto the Supervisor of Wells that:

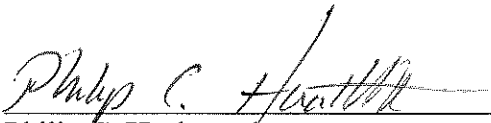
1. Affiant is the Agent of the Applicant with its offices in the City of Jackson, Michigan, County of Jackson, State of Michigan
2. In the regular course of his employment, Affiant is has participated in and is familiar with the efforts conducted by Affiant and others on behalf of the Applicant in pooling the mineral interest owners in the 505 acre unit described as:

T19N-R3W, Hamilton Township, Clare County, Michigan

Section 7: The South $\frac{1}{2}$; AND the West $\frac{1}{2}$ of the Northwest $\frac{1}{4}$; AND the Southeast $\frac{1}{4}$ of the Northwest $\frac{1}{4}$; AND the Southwest $\frac{1}{4}$ of the Northeast $\frac{1}{4}$. Further, Affiant is not disqualified from testifying as a witness, and if sworn as a witness, can and will testify competently to the facts recited herein.

3. Affiant states that all mineral interests within the unit are currently subject to various oil and gas leases, that the oil and gas leases are currently owned by or under control of the Applicant, and that the leased interests have been voluntarily pooled into the SCHICK 1-7 well unit as described above pursuant to the authority granted in the leases and/or ratifications of the pooled unit.

FURTHER, AFFIANT SAITH NOT

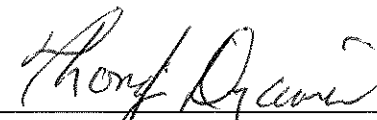

Philip C. Hackworth
P.O. Box 301
Jackson, MI, 49204

STATE OF MICHIGAN
COUNTY OF JACKSON

)
) SS. (Individual Acknowledgment)
)

The foregoing instrument was acknowledged before me this 9th day of February, 2012 by Philip C. Hackworth.

My Commission Expires: 12/03/2014


Thomas J. Dzierwa, Notary Public
Notary in Jackson County, Michigan
Acting in Jackson County, Michigan

Rule 303 Voluntary Pooling Spacing Exception

Applicant	Well Names	Date Recvd
Devon Energy	SCHICK 1-7 P & 1-7 H01	2/15/2012
Date	<p>3/1/12 INITIAL REVIEW</p> <p>POOLED UNIT - RE DECLARATION OF BOUNDARY - DOES NOT INCLUDE THE SW/4 NE/4. ASKED DON MERRILL - VIA EMAIL TO RESOLVE DISCREPANCY.</p> <p>LETTER DRAFTED - AWAITING RESPONSE</p>	
3/8/2012	<p>SMETZGER LETTER CONFIRMS UNIT DESCRIPTION RELATED TO DOP. INCORPORATED INTO WELL FILE.</p> <p>DRAFT LETTER.</p>	

Requirements for Applying for a Spacing Exception Under Rule 303 (2)

In general, R 324.303 (2) may be used to abrogate spacing in a development unit thereby providing greater flexibility for locating wells. R 324.303 (2) may be used to drill one or more wells in the development unit. In all cases, the development unit must be formed by combining 2 or more full drilling units.

Include the following when applying for an admin. spacing exception pursuant to R 324.303(2):

1. Name of applicant, well name, and permit number of well(s) included in the proposed unit. Identify the applicable spacing provision for the objective formation and area.
2. Describe the proposed unit area and identify the number of acres in it.
3. List the names of all mineral and working interest owners in the proposed unit.
- ④ Provide a copy of the Declaration of Pooling, which comprises or includes all of the unit area. OK
5. Describe how the proposed plan of development meets the criteria required in R 303 (2):
 - (a) Waste is prevented.
 - (b) The drilling of unnecessary wells is prevented.
 - (c) A well is not closer than 330 ft from the unit boundary and is not closer than 660 ft from adjacent wells.
 - (d) The distance between wells prevents interference.
6. A copy of pooling ratifications (if required to pool leases e.g. for state-owned minerals) - **AND/OR** - a certified statement from a knowledgeable person that all mineral interests within the unit are leased and controlled by the applicant and that these interests have been voluntarily pooled.
7. Enclose a large-scale project map (e.g. 1"=1000'), drawn to scale, of the proposed unit. Identify all drilled, permitted, and proposed wells. Identify all wells in drilling units adjoining the proposed development unit.
8. Identify what the dev. plans for the unit will be. Are wells beyond what are cur. proposed likely to be drilled?

Snow, Mark (DEQ)

From: Douglas Elenbaas [Douglas_Elenbaas@transcanada.com]
Sent: Monday, March 12, 2012 4:01 PM
To: Snow, Mark (DEQ)
Cc: Stephen Nowaczewski; Allison Schwager
Subject: RE: Schick HD Permit Files

Mark: The permit appears to follow Rule 413. TransCanada wants to emphasize that Devon:

- 1) Conforms to Rule 324.413 (f) Run sufficient number of Centralizers
- 2) Conforms to Rule 324.413 (d) Wait 18 hrs. and 500 psi for the cement system
- 3) Conforms to Rule 324.413 (h) Run a Cement Bond Log (across the storage interval) prior to running additional strings or plugging

Doug Elenbaas

TransCanada Pipeline

Phone: (248) 205-4546

Cell: (734) 751-6330

From: Snow, Mark (DEQ) [mailto:SNOWM@michigan.gov]
Sent: Monday, March 12, 2012 9:36 AM
To: Douglas Elenbaas
Subject: RE: Schick HD Permit Files

Hi Doug,

As you'll recall, I am processing this application which has the well and well bore under the boundaries of the North Hamilton gas storage field. Our rule 413 applies (SEE BELOW).

Would you please let me know whether or not you have any written comments that you'd like added to the final permit? If so please include the specific language that you'd like added.

Thanks.

R 324.413 Drilling to strata beneath gas storage reservoirs.

Rule 413. Except when special orders have been adopted for specific reservoirs, areas, or practices, all of the following provisions about drilling to strata beneath gas storage reservoirs shall apply:

(a) The applicant shall send a copy of the entire drilling permit application and all revisions to the gas storage operator when the application and revisions are submitted to the supervisor. The gas storage operator shall have 10 business days to provide written comments to the supervisor.

(b) Drilling operations shall proceed through gas storage zones only when the gas storage reservoir pressure exerts a pressure gradient of not more than 0.50 psig per foot of true vertical depth to the top of the gas storage zone.

(c) Drilling rigs for wells drilled through gas storage reservoirs shall use rotary tools and shall have blowout prevention equipment pursuant to R 324.406. Complete operational checks of the well control appliances shall be made every 8 hours, with the well control system initially checked by pressure testing and checked again before drilling into the gas storage

3/13/2012

reservoir. The 8-hour checks shall be recorded in the daily driller's log.

(d) Surface casing and any other protective casing string required above the gas storage reservoir shall be new casing manufactured in compliance with the API specifications for casing and tubing as adopted by reference in R 324.411, the properties and design of which have been approved by the supervisor or authorized representative of the supervisor. Surface casing and any other protective casing string shall be designed to withstand the required test pressures as set forth in R 324.410(3). Surface casing shall be set pursuant to R 324.408. Surface casing shall be cemented to the surface and not disturbed for a period of 18 hours after completion of cementing. Cement shall attain a minimum compressive strength of 500 psi before disturbing the casing or resuming drilling. Surface casing, other protective casing strings, and blowout preventers shall be tested pursuant to R 324.406(4) before drilling out the cement, unless otherwise specified by the supervisor or authorized representative of the supervisor.

(e) Drilling fluid shall be circulated and conditioned at a point not less than 100 feet above the gas storage reservoir and shall be maintained with the following characteristics until the gas storage reservoir is cased off:

(i) Drilling fluid density shall be sufficient to provide a hydrostatic pressure of not less than 100 psig above the anticipated bottom hole pressure of the gas storage reservoir.

(ii) When drilling through the storage reservoir, the drilling fluid shall have a maximum fluid loss of 15 cubic centimeters or less as specified by the API standard procedure for testing drilling fluids, API RP 13B-1, entitled "Recommended Practice Standard Procedure for Field Testing Water-Based Drilling Fluids," June 1, 1990, first edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the geological survey division of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Geological Survey Division, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$30.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20050, at a cost as of the time of adoption of these rules of \$30.00 each.

(f) Hole size shall be large enough to allow the running of a separate intermediate casing, which shall be set through each gas storage reservoir. The casing shall be new and conform to the API specification and performance properties for casing, tubing, and drill pipe, API BULL 5C2, entitled "Bulletin on Performance Properties of Casing, Tubing and Drill Pipe, May 31, 1987," twelfth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the geological survey division of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Geological Survey Division, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$35.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20050, at a cost as of the time of adoption of these rules of \$35.00 each. The gas storage operator shall be allowed to review the intermediate casing design and cementing program before implementation. Intermediate casing shall be set in competent stratum approximately 100 feet below the base of the gas storage reservoir or set as required by the supervisor or authorized representative of the supervisor. Intermediate casing shall be designed for the maximum gas storage reservoir operating pressure using a minimum collapse design factor of 1.125, a minimum burst design factor of 1.25, and a minimum tension design safety factor of 1.6. The minimum hole size for a given size casing shall be pursuant to R 324.410(4). The hole shall be properly conditioned before running casing by circulating the drilling fluid at a rate equal to the drilling circulating rate and by utilizing a circulating time equivalent of not less than twice the hole displacement. Casing shall be equipped with a sufficient number of centralizers and scratchers to ensure good cement distribution and shall include centralizers above and below the gas storage reservoir. All centralizers shall conform to the API for casing centralizers, API specification 10D, entitled "Specification for Bow-Spring Casing Centralizers," January 1, 1995, fifth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the geological survey division of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Geological Survey Division, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$27.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20050, at a cost as of the time of adoption of these rules of \$27.00 each. Casing shall include float equipment that will prevent movement after the cementing operation is completed. If conditions allow, casing shall be rotated or reciprocated slowly during cementing. The mill varnish shall be removed from the casing shoe to a point 100 feet above the storage reservoir. An acceptable spacer that is at least as dense as the drilling fluid shall precede the cement to aid in removing the drilling fluid. Cement mix water shall be tested before the cementing operation to ensure compatibility with the cement. The casing shall be cemented using a sufficient cement volume to circulate cement to the surface. Multistage cementing operations and external casing packers may be used only with the approval of the supervisor or authorized representative of the supervisor. Cemented casing shall not be disturbed for a period of 18 hours. Cement shall also attain a minimum compressive strength of 500 psi based on cement tables before disturbing the casing or resuming drilling. Absent backflow, the internal casing pressure shall be relieved after the cementing operation. Intermediate casing and the blowout preventers shall be tested to a pressure of not less than 1,500 psig at the surface or as otherwise specified by the supervisor or authorized representative of the supervisor, and the pressure shall be held for not less than 20 minutes before drilling out the cement.

(g) When additional intermediate casing is run inside the innermost storage zone casing, below the base of the Detroit river group, the intermediate casing string and cementing shall be pursuant to these rules and the orders and instructions issued by the supervisor.

(h) A centralized cement bond evaluation log or equivalent test approved by the supervisor shall be performed on the storage zone casing before running subsequent casing or plugging the hole, but not sooner than 48 hours after cementing the storage zone intermediate casing. A description of problems occurring while running or cementing casing shall be recorded in the daily driller's log. If unsatisfactory conditions are indicated, including unsatisfactory cement bonding, gas to the surface in the cellar area, or gas pressure on the surface or intermediate casing string annulus, and additional testing does not provide sufficient proof the unsatisfactory condition does not exist, then the permittee shall initiate remedial action before additional casing is installed.

(i) Wellhead equipment and assemblies shall conform to the API specification for wellhead equipment, and shall include slip and seal assemblies for all casings, unless an exception is approved by the supervisor or authorized representative of the supervisor. The API specification for wellhead equipment is specification 6A, entitled "Specification for Wellhead and Christmas Tree Equipment," February 1, 1996, seventeenth edition, which is adopted by reference in these rules. Copies are available for inspection at the Lansing office of the geological survey division of the department of environmental quality. Copies may be obtained from the Michigan Department of Environmental Quality, Geological Survey Division, P.O. Box 30256, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$55.00 each, and from the American Petroleum Institute, 1220 L Street NW, Washington, DC 20050, at a cost as of the time of adoption of these rules of \$55.00 each. The wellhead shall be assembled to allow the monitoring of the pressure of each annulus at the surface.

(j) The permittee shall notify the gas storage operator before moving personnel or equipment, or both, onto the well location to ensure all of the following:

(i) That the proposed well location does not endanger gas storage facilities or storage operations.

(ii) That the movement of drilling rigs, related trucks, and equipment does not endanger gas storage facilities or storage operations.

(iii) That the gas storage operator is allowed to witness drilling operations that impact the gas storage reservoir.

Mark J. Snow

Permit Coordinator - Geologist

Department of Environmental Quality

Resource Management Division

Office of Oil, Gas, and Minerals (OOGM)

517-241-1530

snowm@michigan.gov

Mailing: PO Box 30256, Lansing, MI 48909

Shipping: DEQ-OOGM, Constitution Hall, 1st Floor South

525 W. Allegan Street, Lansing, MI 48933

From: worthsurveying@sbcglobal.net [mailto:worthsurveying@sbcglobal.net]

Sent: Saturday, March 03, 2012 11:15 AM

To: Doug Elenbaas

Cc: Greg Sibley; Snow, Mark (DEQ)

Subject: Fw: Schick HD Permit Files

Doug,

Here are the revisions for the Schick 1-7 HD.

Thanks again.

Tom Worth

-----Original Message-----

From: Sibley, Greg

Date: 3/1/2012 4:43:27 PM

To: worthsurveying@sbcglobal.net

Subject: Schick HD Permit Files

3/13/2012

PART 615 - DRILLING PERMIT APPLICATION FLOW SHEET

Application number <u>A120017</u>	Date application received <u>2-15-12</u>	+ 5 days Date to send to field <u>2-20-12</u>
Applicant <u>Devon Energy Production</u>	Company No. <u>6495</u>	+ 25 days Adm complete <u>3-16-12</u>
Well Name & No. <u>Schick 17HDI</u> company <u>UP</u>	Revision date	+ 20 days Permit decision <u>4-5-12</u>
<input type="checkbox"/> New Company	Pre-revision app no.	Days tolled
<input checked="" type="checkbox"/> Correct address and phone number		New date for permit dec.
<input type="checkbox"/> State Surface Date e-mailed to FMFM		
<input type="checkbox"/> Horizontal - no fee	<input type="checkbox"/> Drilling or Deepening	<input checked="" type="checkbox"/> Check #, Bank, City <u>0002041791, Bank of America</u>

INITIAL REVIEW

Reviewer: MARK SNOW Atlanta, GA

<input checked="" type="checkbox"/> Admin complete application	<input checked="" type="checkbox"/> EQP 7200-1 <input checked="" type="checkbox"/> EIA <input checked="" type="checkbox"/> Notice to Co Clerk <input checked="" type="checkbox"/> Valid bond No. <u>100753026-622</u>	<input type="checkbox"/> EQP 7200-2 <input type="checkbox"/> Notice to landowner <input type="checkbox"/> Inj. well supplements	<input type="checkbox"/> Supplemental plat <input checked="" type="checkbox"/> Directional plan <input type="checkbox"/> Antism-EIA <input checked="" type="checkbox"/> Blanket	<input checked="" type="checkbox"/> BOP diagram <input checked="" type="checkbox"/> Soil erosion <input checked="" type="checkbox"/> H ₂ S cont plan <input type="checkbox"/> Single	<input checked="" type="checkbox"/> Full dring unit <input checked="" type="checkbox"/> Proper spacing <input checked="" type="checkbox"/> Has surf rights <input type="checkbox"/> Half
<input checked="" type="checkbox"/> Natural Features	<input checked="" type="checkbox"/> No match found <input type="checkbox"/> Application activity entered	<input type="checkbox"/> Match found Program <u>CLOSED PER 201 SITE</u> Personnel contacted			
<input checked="" type="checkbox"/> Distribution	Area geologist: <input type="checkbox"/> Cadillac <input type="checkbox"/> Gaylord District geologist: <input type="checkbox"/> Cadillac <input type="checkbox"/> Copy sent to local emergency coord <input type="checkbox"/> Confidential, copy provided to PGP <input type="checkbox"/> Application activities entered	<input type="checkbox"/> Lansing <input type="checkbox"/> Livonia <input checked="" type="checkbox"/> Bay City <input type="checkbox"/> Kalamazoo <input type="checkbox"/> Lansing <input type="checkbox"/> City or Twp over 70,000 population	<u>WAYNE TODD</u> Date sent to field <u>2/17/12</u>		

REVIEW FOR COMPLETE AND ACCURATE INFORMATION

Reviewer: MARK SNOW

<input checked="" type="checkbox"/> Location	<input type="checkbox"/> 7200-1 deficiencies or conflicts <input type="checkbox"/> 7200-2 deficiencies or conflicts <input checked="" type="checkbox"/> Zoning <u>AGRICULTURAL</u> <input type="checkbox"/> Posted on map	Residential zoning date: _____ <input type="checkbox"/> Special management area or wellhead protection zone
<input checked="" type="checkbox"/> Drilling Unit <u>490A</u> <u>R 203</u>	Well type: <input type="checkbox"/> Oil/Gas <input type="checkbox"/> Complete drilling unit <input type="checkbox"/> General Rule <input type="checkbox"/> S.O. 1-73 <input type="checkbox"/> S.O. 1-86 <input type="checkbox"/> (A) 14-9-94 <input type="checkbox"/> USP Request <input type="checkbox"/> USP density <input type="checkbox"/> 303 (2) <input type="checkbox"/> Administrative approval	<input type="checkbox"/> Unleased interests <input type="checkbox"/> Field spacing order <input type="checkbox"/> Approved USP <input type="checkbox"/> 1320' Conflicts <input type="checkbox"/> Hearing petition
<input checked="" type="checkbox"/> Injection wells <u>N/A</u>	Well type: <input type="checkbox"/> BDW <input type="checkbox"/> Gas storage <input type="checkbox"/> Secondary recovery <input type="checkbox"/> Supplemental survey, all producing/plugged wells within 1320' <input type="checkbox"/> 7200-14 complete <input type="checkbox"/> Inj pressure below fracture gradient <input type="checkbox"/> Deficiencies	<input type="checkbox"/> All records of wells within 1320' <input type="checkbox"/> No migration of inj fluids into wells within area of review <input type="checkbox"/> Injection into a producing pool
<input checked="" type="checkbox"/> Ownership	<input checked="" type="checkbox"/> Private surface <input type="checkbox"/> State surface <input type="checkbox"/> Federal surface <input type="checkbox"/> Deficiencies	<input checked="" type="checkbox"/> Private minerals <input type="checkbox"/> State minerals <input type="checkbox"/> Federal minerals State lease number _____
<input checked="" type="checkbox"/> H ₂ S	<input checked="" type="checkbox"/> Received H ₂ S Determination <input checked="" type="checkbox"/> Contingency plan enclosed	<input type="checkbox"/> Sweet <input type="checkbox"/> Deficiencies <input checked="" type="checkbox"/> Sour, Class <u>1</u>
<input checked="" type="checkbox"/> Casing & Sealing	<input checked="" type="checkbox"/> Rotary <input checked="" type="checkbox"/> Surface adequate R 408 <input type="checkbox"/> Int csg S.O. 2-73 <input checked="" type="checkbox"/> Through gas storage R 412 <input type="checkbox"/> Deficiencies	<input type="checkbox"/> Combination <input checked="" type="checkbox"/> BOP adequate <input type="checkbox"/> 30% exception <input type="checkbox"/> Notice to storage operator <input type="checkbox"/> Cable <input checked="" type="checkbox"/> Proper hole/casing size R 410(4) <input type="checkbox"/> Short int exception <input type="checkbox"/> LS csg, meets R 410(3) <u>TIM WORTH SENT NOTE ON 3/3/12</u>
<input checked="" type="checkbox"/> EIA review	Features < 1320': <input type="checkbox"/> Wetland <input type="checkbox"/> Endangered specie <input type="checkbox"/> Surface Water <input type="checkbox"/> Floodplain Man made features: <input type="checkbox"/> Residence < 300' <input type="checkbox"/> Private ww < 300' <input type="checkbox"/> Need additional information	<input type="checkbox"/> Natural river <input type="checkbox"/> Critical dune <input type="checkbox"/> Great Lake less than 1500' <input type="checkbox"/> Public ww < 800 or 2000'
<input checked="" type="checkbox"/> Reconcile Field & Lansing review	<input type="checkbox"/> Tolled, Date _____ Reason _____ <input checked="" type="checkbox"/> Technical Deficiency, Date <u>3/14/2012</u> Reason _____ <input checked="" type="checkbox"/> Adm Complete, Date <u>3/14/2012</u> Reason _____ <input checked="" type="checkbox"/> Lansing staff recommend issuance Date <u>3/14/2012</u> <input type="checkbox"/> Denial recommended to Division Chief Date _____ <input type="checkbox"/> Previously drilled wells at this surface location	API# 11th, 12th digits _____

LARGE YOUNG WATER WITHDRAWAL, ZONE "A" PASSED SCREENING PROCESS.

CONTACT BUREAU ONE WEEK BEFORE PERMITTING AND ON SUNDAY-BY. HAWKITE MUD ON SUNDAY-BY. CASE NO.