



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OFFICE OF GEOLOGICAL SURVEY

APPLICATION TO:

- CHANGE WELL STATUS OR
 PLUG AND ABANDON WELL

Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

- Part 615 Oil or Gas Well Part 625 Mineral Well

Change of well status requested to: <input type="checkbox"/> Plug back <input type="checkbox"/> Perforate <input type="checkbox"/> Temporarily abandon <input type="checkbox"/> Convert to _____ <input type="checkbox"/> Other _____	Permit number 60472	Type of well Dry hole
Last production/injection rate and type of fluid	API number 21-073-60472-00-00	
Brief description of project Plug to surface	Name and address of permittee Charles Moskowitz 306 E. Broadway, Ste 6, P.O. Drawer 463 Mount Pleasant, MI 48858	
Work to be done by Will notify	Well name and number Susan Welch #1	Well location NW 1/4 of NW 1/4 of NW 1/4 Section 20 T 14N R 4W
	Township Union	County Isabella
	Date drilling completed 1-4-2012	Date last produced/utilized -
		Starting date will notify

CASING AND CEMENTING RECORD

Hole dia	Casing dia & wt/ft	Depths set	Cement quantity, type, additives	Cement top	Perforations
	13 5/8"	70'	Driven		
	8 5/8"	710'	200sx lite, 150 sx Class A	circ.	
	5 1/2"	3450'	150sx Class A	est. 2850'	3212'-14'
	TD	3777'			
	PB	3457'	open hole packer		

Formation record (formation and depth of top, oil, gas and water shows, etc.):

formation	depth		
Bell Shale	3701'		
Marshall	1392'	TD	3777'
Coldwater	1661'		
Sunbury	2652'		
Berea	2675'		
Antrim	2697'		
Traverse	3109'		
Traverse lime	3131'		

Detail proposed procedures:

With the hole static and full of fluid spot 60sx class A cement on bottom at 3450', wait 4 hours on cement plug. Free-point, cut and pull 5 1/2" casing. Spot a 60sx class A cement plug on the 5 1/2" stub. Spot a 75sx class A cement plug at 810', wait 4 hours on cement plug, tag plug to ensure that it is still in place, top of the plug should be at least 600' (spot more cement as necessary). Spot a 60sx class A cement plug from 200' to surface. Cut all casings off 4' below grade. Weld a 1/2" steel plate over the ends of the 8 5/8" surface casing and 13 5/8" drive pipe. Permanently affix the permit number 60472 to the top of the plate. Restore location to original condition as soon as weather conditions allow.

Name/signature (authorized representative):	Date:
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FOR OFFICE OF GEOLOGICAL SURVEY USE ONLY

DEQ additional requirements:

JAN 26 2012

<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	Production tests to commence within 10 days of completion and to be filed		
<input type="checkbox"/> Yes <input type="checkbox"/> No	Service company records are to be filed		
Approved by DEQ: <i>Ueli Bernard</i>	Office: <i>Saginaw Bay</i>	Approval date: 1-23-2012	Termination Date: 1-23-2013

Submit original and three (3) copies of this application to the District Office within 60 days of change of well status.
 Note: Three copies of Record of Well Plugging or Change of Well status (EQP 7200-8) and any requested service company records are to be filed within 60 days of completion at the District Office.



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- Part 615 Oil or Gas Well Part 625 Mineral Well

Change of well status requested to:		Permit number	Type of well
<input checked="" type="checkbox"/> Plug back	<input type="checkbox"/> Perforate	60472	Dry hole
<input type="checkbox"/> Convert to	<input checked="" type="checkbox"/> Temporarily abandon	API number	
	<input type="checkbox"/> Other	21-073-60472-00-00	
Last production/injection rate and type of fluid		Name and address of permittee	
Brief description of project		Charles Moskowitz	
Plug to surface		306 E. Broadway, Ste 6, P.O. Drawer 463	
		Mount Pleasant, MI 48858	
		Well name and number	
		Susan Welch #1	
		Well location	
		NW 1/4 of NW 1/4 of NW 1/4 Section 20 T 14N R 4W	
		Township	County
		Union	Isabella
		Date drilling completed	Date last produced/utilized
		1-4-2012	
Work to be done by		Starting date	
Will notify		will notify	

CASING AND CEMENTING RECORD

Hole dia	Casing dia & wt/ft	Depths set	Cement quantity, type, additives	Cement top	Perforations
	13 5/8"	70'	Driven		
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	PB	3457'	open hole packer		

Formation record (formation and depth of top, oil, gas and water shows, etc.):

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Antrim	2697'		
Traverse	3109'		
Traverse lime	3131'		

Detail proposed procedures:

With the hole static and full of fluid spot 60sx class A cement on bottom at 3450', wait 4 hours on cement plug. Free-point, cut and pull 5 1/2" casing. Spot a 91sx kick plug just inside the stub of the 5 1/2" casing. Spot a 75sx class A cement plug at 810', wait 4 hours on cement plug, tag plug to ensure that it is still in place, top of the plug should be at least 600' (spot more cement as necessary). Spot a 60sx class A cement plug from 200' to surface. Surface casing will be left in place and secured with a cap or swedge. Operator is planning to kick this well in the near future.

If this well is not kicked the surface casing must be cut off 4' below grade, a 1/2" steel plate welded over the top of the casings with the permit number 60472 permanently affixed to the top of the plate.

Name/signature (authorized representative):

Date:

FOR OFFICE OF GEOLOGICAL SURVEY USE ONLY

DEQ additional requirements:

Yes No Not applicable Production tests to commence within 10 days of completion and to be filed

Yes No Service company records are to be filed

Approved by DEQ:	Office:	Approval date:	Termination Date:
<i>Victor Bernard</i>	<i>Engrain Bay</i>	<i>2-1-2012</i>	<i>2-1-2015</i>

Submit original and three (3) copies of this application to the District Office within 60 days of change of well status. Note: Three copies of Record of Well Plugging or Change of Well status (EQP 7200-8) and any requested service company records are to be filed within 60 days of completion at the District Office.

**RECORD OF WELL DRILLING OR DEEPENING**

Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

Permit number/Deepening number
60472

(Submit within 60 days of drilling completion.)

 Part 615 Oil/Gas Well Part 625 Mineral Well

Name and address of permittee Charles J. Moskowitz PO Box 463 Mt. Pleasant, Michigan 48804		API number 21-073-60472	
Name and address of drilling contractor Arrow Energy Services, Inc. 4030 Columbus Drive Kalkaska, Michigan 49646		Well name and number Susan Welsh#1	
Date drilling began 12 - 27 - 2011		Surface location NW 1/4 of NW 1/4 of NW 1/4 Section 20 T14N R4W	
Date drilling completed 1 - 4 - 2012		Township Union	
Total depth of well Driller 3771' Log 3771'		County Isabella	
Formation at total depth Dundee		Footages North/South East/West 330 ft. from North line and 330 ft. from West line of sec.	
Elevations K.B. 827.8 ft. R.F. ft. R.T. ft. Grd 814.6 ft		Directionally drilled (check one) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
		Previous permit numbers none	
		Subsurface location (if directionally drilled) 1/4 of 1/4 of 1/4 Section T R	
		Township County	
		Footages North/South East/West ft. from line and ft. from line of sec.	
		Feet drilled - cable tools from to	
		Feet drilled - rotary tools from Surface to 3771	

Casing, Casing Liners and Cementing, Operating Strings					Water Fill Up (F.U.) or Lost Circulation (L.C.) (X)				
Size	Where set	Cement	T.O.C.	Ft. pulled	Formation	F.U.	L.C.	Depth	Amount
13 3/8"	54 ft	Driven		none					
8 5/8 "	710 ft	350 sx lite+CLA	Surface	none					
5 1/2"	3450 ft	150sx class A	2850 ft	2408ft					

Gross Pay Intervals				All Other Oil and Gas Shows Observed or Logged								
Formation	Oil or Gas	From	To	Where Observed (X)								
				Formation	Oil or Gas	Depth	Sam- ples	Odor	Pits	Mud Line	Gas Log	Fill Up

Depth Correction		Deviation Survey		Plugged Back		
Depth	Correction	Run at	Degrees	Yes	No	Depth
				x		Kick PLUG T.O.C @2106ft

Geophysical / Mechanical Logs (list each type run)		
Brand	Log types	Logged intervals
Wellsight Systems	Mud Log	54' - 3771'
Baker Hughes	CORL	2800' - 3386'
Baker Hughes	Comp	2950' - 3410'
Baker Hughes	DMLL	1350' - 3438' ** SEE EXTRA LOGS P. 1a**

Notice: Report complete sample and formation record, coring record, and drill stem test information on reverse side.

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

Date 2-21-2013	Name and title (print) Charles J. Moskowitz, CPG	Signature <i>Charles J. Moskowitz</i>
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Mail original within 60 days after drilling completion to: Office of Oil, Gas, and Minerals, Michigan Department of Environmental Quality,
P.O. Box 30256, Lansing, MI 48909-7756
Or submit via email to deq-geologicalrecords@michigan.gov

FEB 28 2013

FEB 21 2013

60472

Charles J. Moskowitz CPG

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Well Name: Susan Welch #1

Location: Sec. 20, 14N-4W Union Twp., Isabella Co.

Permit #60472

Pleistocene:

0-386 Clay, sand, gravel.

Permo-Carboniferous:

386-918 Mud, Red, Gray-Gypsum, sandy tan, limestone, Shale, red-brown, limey, green, dense, coal.

Mississippian:

Bayport Lime

918-1018 Limestone, tan, brown, white, red-brown.

Michigan

1018-1160 Shale med. gray-green, Sand round, limey.

Triple Gypsum

1160-1271 Anhydrite, white, dense, shale med crystalline.

Brown Lime

1271-1365 Dolomite, brown, light gray, white anhydrite, dense..

Stray Sand

1365-1392 Sand, white, fine, angular-sub angular, slightly porous brown, red.

Marshall

1392-1661 Sand, sandstone, white, gray, red-brown.

Charles J. Moskowitz CPG
Well Name: Susan Welch #1
Location: Sec. 20, 14N-4W Union Twp., Isabella Co.

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Permit #60472

Coldwater Shale

1661-2652 Shale, gray.

Sunbury

2652-2675 Shale, black-gray, bulky.

Berea

2675-2697 Shale, medium gray-brown, bulky, dense.

Antrim

2697-2943 Shale, gray-brown, dull yellow-white, dense.

Lachine

2943-3033 Shale, dark gray, dark brown.

Paxton

3033-3069 Shale, dark brown, black, gray, dense, limey.

Norwood

3069-3109 Shale, dark gray, dark brown, bulky, firm, dense, limey, carbonate.

Traverse Formation

3109-3131 Shale, brown, gray, limestone, limey.

Traverse Limestone

3131-3707 Limestone, light tan-buff tan, shale gray.

Bell Shale

3707-3771 Shale medium gray, gray-green, gray, bulky.

Dundee

3771

AUG 09 2012

FORMATION RECORD
Attach additional sheets if necessary

API number **21-073-60472-06-00** Permit number/Deepening number **60472**

Elevation used **814.6ft** Geologist name **Charles J. Moskowitz**
Tops taken from Driller's log Sample log Electric log

From	To	Formation (type, color, hardness)	From	To	Formation (type, color, hardness)
Note: if well directionally drilled, add true vertical depth formation tops where appropriate					
0	386	Pleistocene			
386	918	Permo-Carboniferous			
918	1018	Bay Port Lime			
1810	1160	Michigan			
1160	1271	Triple Gypsum			
1271	1365	Brown Lime			
1365	1392	Stray sand			
1392	1661	Marshall			
1661	2652	Coldwater			
2652	2675	Sunbury			
2675	2697	Berea			
2697	2943	Antrim			
2943	3033	Lachine			
3033	3069	Paxton			
3069	3109	Norwood			
3109	3131	Traverse Formation			
3131	3707	Traverse Limestone			
3707	3771	Bell shale			
3771		Dundee			
If well was cored, attach core description					
DRILL STEM TEST DATA					
none					
LIST ATTACHMENTS					
OFFICE OF OIL, GAS, AND MINERALS USE ONLY					
Reviewed by					
Date of review					



RECORD OF WELL COMPLETION

By 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.

(Submit within 60 days of well completion.)

Part 615 Oil/Gas Well Part 625 Mineral Well

Permit number/deepening permit no. **60472** API number **21-073-60472-00-00**

Type of well (after completion) **Dry hole**

Well name & number **Sasan welsh # 1**

Name and address of permittee Charles Moskowitz 306 E. Broadway, Ste 6, P.O. Drawer 463 Mt. Pleasant, MI 48858						
Directionally drilled (check one) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Previous permit numbers		Total depth of well M.D. 710' T.V.D. 3771'		
Surface location 1/4 of 1/4 of 1/4 Section T R			Subsurface location (if directionally drilled) NW 1/4 of NW 1/4 of NW 1/4 Section 20 T 14N R 4W			
Township		County		Township Union County Isabella		
Footages: North/South Ft. from line and		East/West Ft. from line of Sec.		Footages: <u>North</u> South East <u>West</u> 330' Ft. from <u>North</u> line and 330' Ft. from <u>West</u> line of Sec. 20		
Part 615 - oil/gas wells			Part 625 - mineral wells			
Date well completed 1-4-2012		Producing formation(s)	Injection formation(s)	Date of first injection	Disposal formation(s) Solution formation(s)	

COMPLETION INTERVALS(S)

Date	Number holes	Perforation or open hole interval	Open	
			Yes	No
1-12-12	8 shots	2' @ 4 spf From 3212' TO 3214'		
1-23-12	20 shots	5' @ 4 spf from 3200' TO 3205'		

STIMULATION BY ACID OR FRACTURING

Date	Interval treated	Materials and amount used
1-12-12	3212' TO 3214'	400 gals 20% ACID (HCl)
1-23-12	3200' TO 3205'	NONE

PRODUCTION TEST DATA

Oil Bbls/day	Gravity °API	Condensate Bbls/day	Gas MCF/day	Water Bbls/day	H ₂ S Grains/100 ft ³	B.H.P. and depth

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

Name and title (print or type) **Charles J. Moskowitz** Signature **Charles J. Moskowitz** Date **3-30-12**

Mail original to Office of Oil, Gas, and Minerals, Michigan Department of Environmental Quality, P.O. Box 30256, Lansing, MI 48909-7756. Or submit via email to deq-geologicalrecords@michigan.gov.



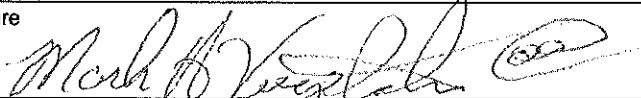
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - GEOLOGICAL SURVEY DIVISION
CERTIFICATION OF CASING AND SEALING OF SURFACE HOLE

Required by authority of Part 615 Supervisor of Wells or
 Part 625 Mineral Wells, of Act 451 PA 1994, as amended
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Permit number 60473
Well name Susan Welch
Surface location NW 1/4 of NW 1/4 of NW1/4 Section 14 T 14N R 4W
Name and address of drilling contractor Arrow Drilling Surface LLC Columbus Drive Kalkaska Mi. 49646

Township Union	County Isabella
Name and address of permittee Moskowitz Charles J. 306 E Broadway Ste 6 PO Drawer 463 Mount Pleasant, Mich. 48858	

SURFACE HOLE

Hole diameter (Note reductions)	Depth to bedrock	Base of specified aquifer (see permit)	Total depth of surface hole	Formation at surface casing seat	Date drilling completed
12"3/4	350'		726'	Saginaw	12/28/2011
Narrative of unusual drilling circumstances or problems encountered none					
Name and address of geologist/mud logger BlackGold Consulting & Mud Logging Mark H Viegelahn 235 S 6 th St Rogers City MI, 49779					
Signature 				Date 12/28/2011	

SURFACE CASING

Casing O.D. (in)	Casing depth	Cement type and additives	Amount of cement (sacks)	Volume (bbls)		Plug down date & time
				Pumped	Returned to surface	
8"5/8	710'	65/35lite 3%cal	200sx		15 bbl	12/28/11
		Class A	150sx			2pm
Narrative of problems encountered running or cementing casing. Note any cement fallback, grouting, or lost circulation zones. none						

I AM RESPONSIBLE FOR THIS REPORT. THE INFORMATION IS COMPLETE AND CORRECT.

Signature of permittee or company officer 	Date 12-28-2011
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Submit the original and one copy, typewritten or legible printed, within 30 days after drilling is completed to:

GEOLOGICAL SURVEY DIVISION
 MICHIGAN DEPT OF ENVIRONMENTAL QUALITY
 PO BOX 30256
 LANSING MI 48909-7756