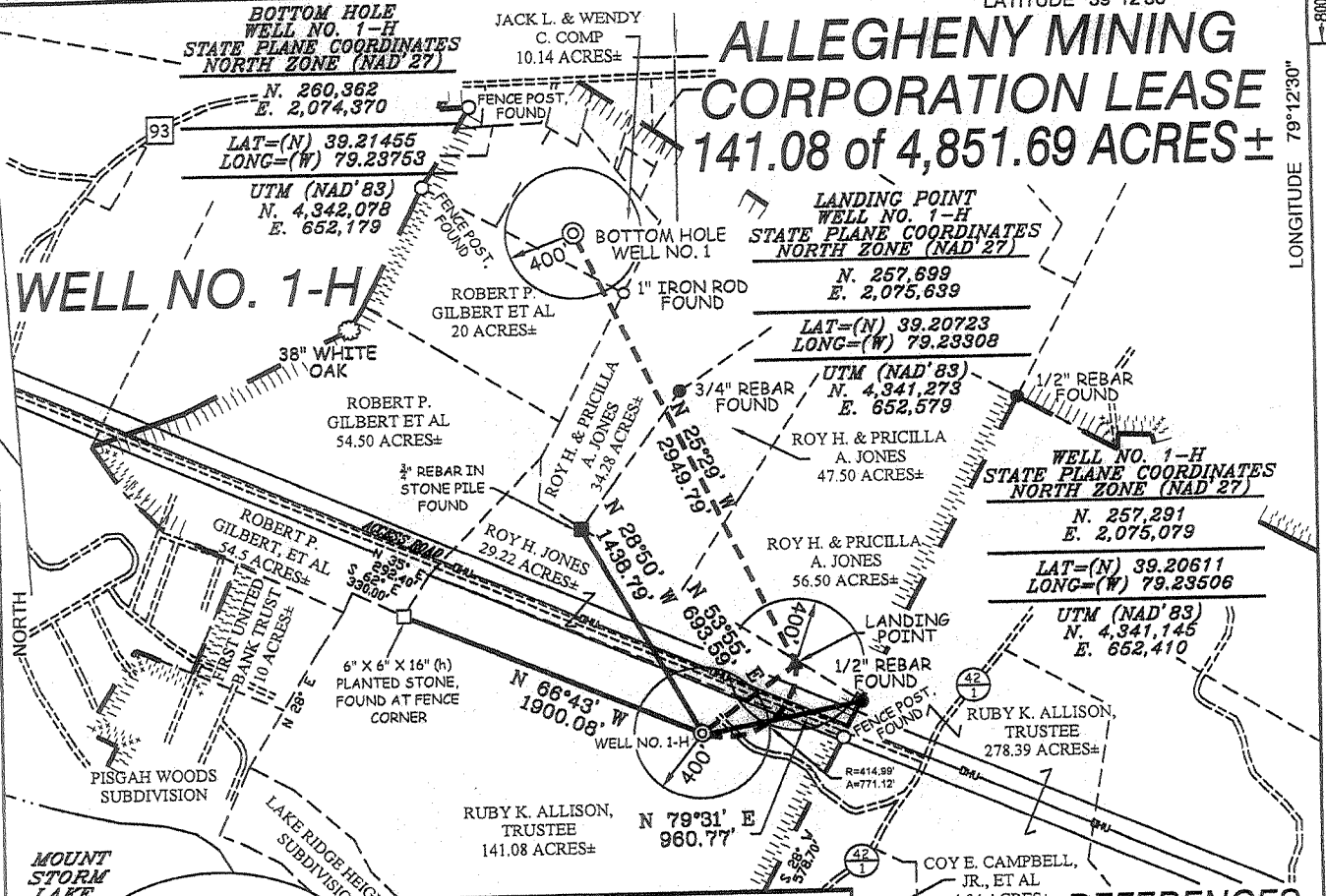


ALLEGHENY MINING CORPORATION LEASE

141.08 of 4,851.69 ACRES±

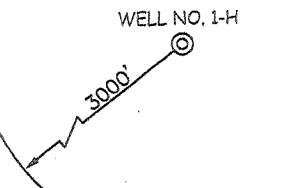


SPECIAL NOTE:
THIS PROPOSED WELL DOES MEET THE STATE REQUIREMENTS FOR A DEEP WELL BEING 400' FROM THE LEASE AND/OR UNIT BOUNDARY. SLS HAS PREPARED THIS PLAN WITH THE UNDERSTANDING THAT CARRIZO'S INTENT IS TO DRILL INTO THE ORISKANY THEN PLUG BACK AND COMPLETE THE HORIZONTAL LATERAL INTO THE MARCELLUS FORMATION.

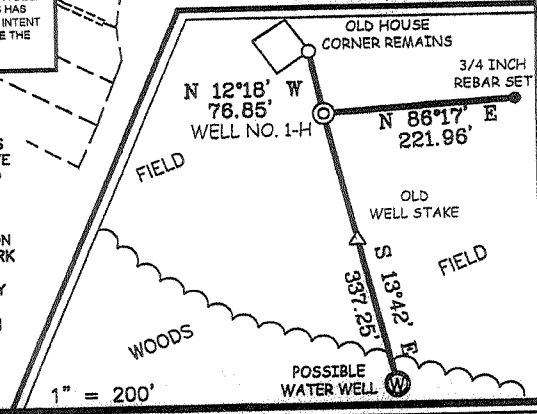
NOTES ON SURVEY

1. TIES TO WELLS, CORNERS AND REFERENCES ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM NORTH ZONE NAD '27.
2. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 150 PAGE 422.
3. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF GRANT COUNTY IN JUNE 2010.
4. WELL LAT./LONG. (NAD'27) ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).
5. PROPOSED WELL ALLEGHENY MINING #1-H IS OVER 400' FROM ANY LEASE BOUNDARY.

THERE APPEAR TO BE NO KNOWN PERMITTED WELLS WITHIN 3,000'.

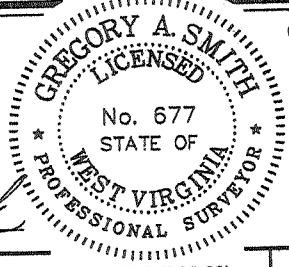


REFERENCES



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 677
Gregory A. Smith



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE JULY 27, 2011
OPERATORS WELL NO. ALLEGHENY MINING CORPORATION #1-H
API WELL NO. 47 - 23 - 000354
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 7224Pwell1-HR2 (365-89)
PROVEN SOURCE OF ELEVATION DGPS (SURVEY GRADE TIE CORS NETWORK)
SCALE 1" = 1000'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

WELL TYPE: OIL ___ GAS INJECTION ___ WASTE DISPOSAL ___ IF "GAS" PRODUCTION STORAGE ___ DEEP SHALLOW ___

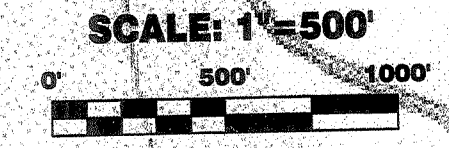
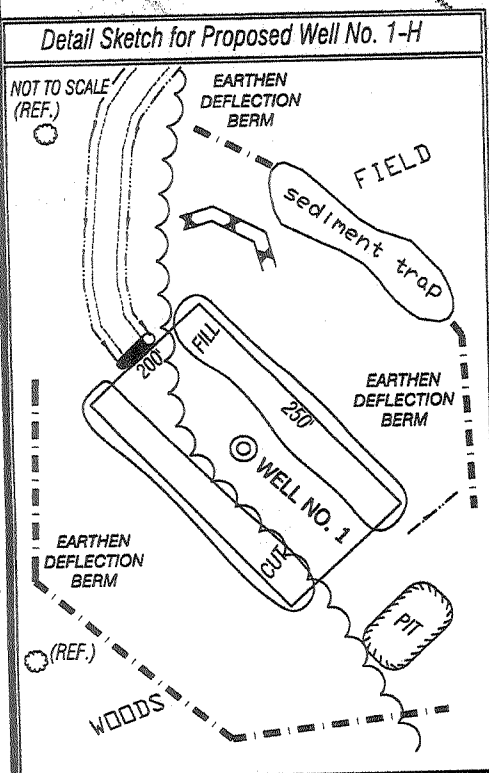
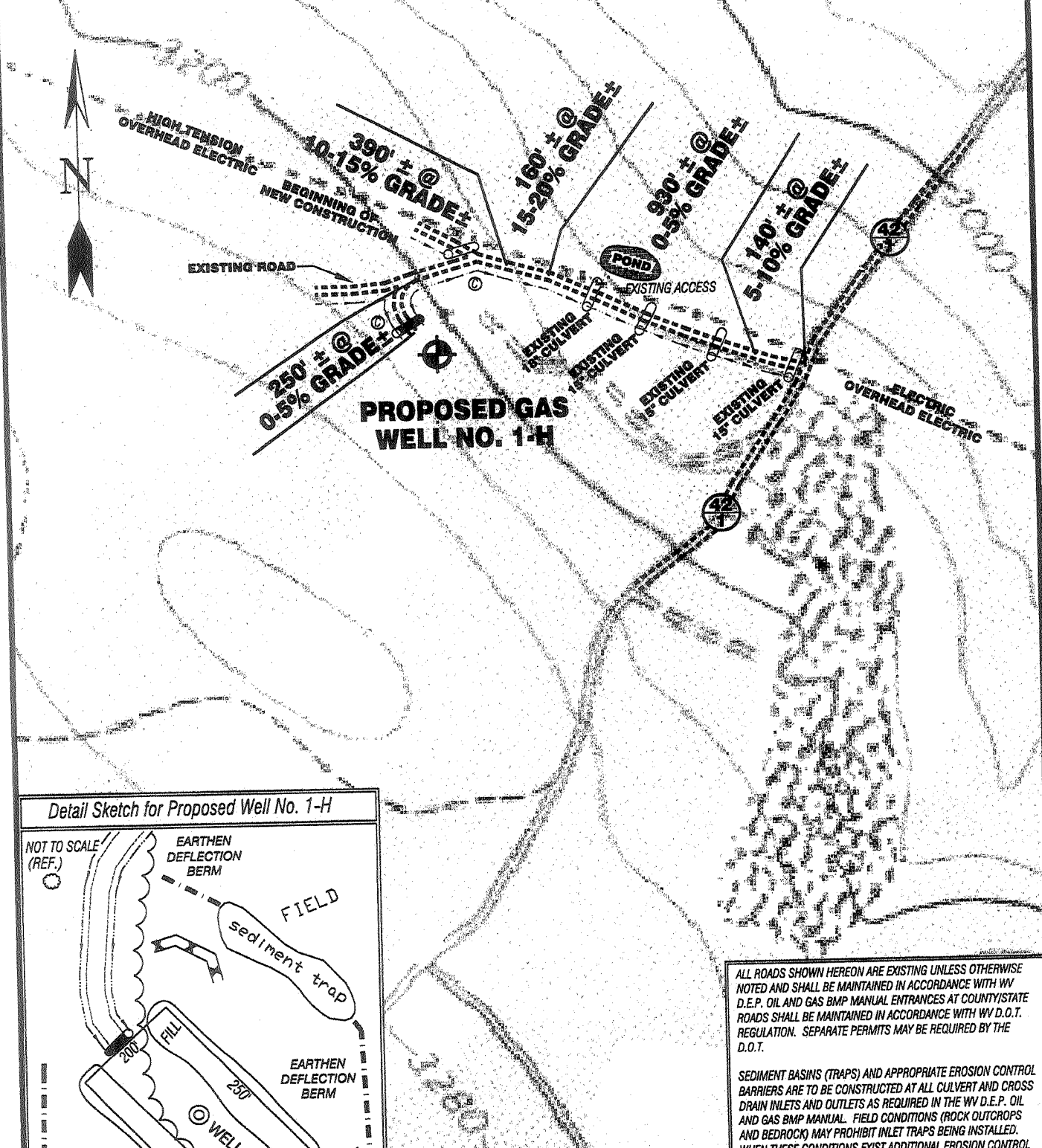
LOCATION: ELEVATION 3,204' GROUND/3,209' PROPOSED WATERSHED ABRAM CREEK
DISTRICT UNION COUNTY GRANT QUADRANGLE GREENLAND GAP 7.5'
SURFACE OWNER RUBY K. ALLISON, TRUSTEE ACREAGE 141.08±
ROYALTY OWNER ALLEGHENY MINING CORPORATION LEASE ACREAGE 141.08 of 4,851.69±
PROPOSED WORK: DRILL CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION ORISKANY ESTIMATED DEPTH 11,500'+HORIZONTAL

WELL OPERATOR CARRIZO (MARCELLUS) WV, LLC. DESIGNATED AGENT CT CORPORATION
ADDRESS 1000 LOUISIANA, SUITE 1500 HOUSTON, TX 77002 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

ALLEGHENY MINING CORP. LEASE

WELL NO. 1-H



TOPO SECTION OF USGS GREENLAND GAP 7.5' QUADRANGLE

PROPOSED CULVERT INVENTORY (FOR BID PURPOSES ONLY)

15" (MINIMUM) CULVERTS	2 CUL.
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ADDITIONAL CULVERTS AND/OR OTHER DRAINAGE STRUCTURES & SEDIMENT CONTROL DEVICES MAY BE REQUIRED BY THE WV D.E.P. OIL & GAS INSPECTOR. OPERATOR IS RESPONSIBLE FOR COORDINATION WITH CONTRACTOR AND SLS REGARDING ANY CHANGES OR ADDITIONS THE STATE MAY REQUIRE.

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.E.P. OIL AND GAS BMP MANUAL ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATION. SEPARATE PERMITS MAY BE REQUIRED BY THE D.O.T.

SEDIMENT BASINS (TRAPS) AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

TEMPORARY SEED & MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT & STACK ALL MARKETABLE TIMBER.

STACKED BRUSH MAY BE USED FOR SEDIMENT CONTROL.

APPLICATIONS FOR SEPARATE PLC PERMITS ON THE ACCESS ROAD STREAM CROSSINGS HAVE BEEN PREPARED (IF APPLIES).

- = EXISTING CULVERT
 - = PROPOSED CULVERT 12" MIN. UNLESS OTHERWISE NOTED
 - = PROPOSED STREAM CROSSING (IF APPLIES)
- *SEE TABLE FOR CULVERT DETAIL

SLS

SMITH LAND SURVEYING, INC.
P.O. BOX 150 GLENVILLE, WV. 26351
PH: (304) 462-5634 FAX: (304) 462-5656 E-MAIL: sls@tol.net

DRAWN BY D.L.P.	FILE NO. 7224	DATE 08/18/09	CADD FILE: 7224REC1rv2.dwg
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OCT 28 2011
OCT 28 2011

REVISED

WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 01/10/2013
API #: 47-023-00035

Farm name: ALLEGHENY MINING CORP. Operator Well No.: 1H

LOCATION: Elevation: 3,204' GL Quadrangle: GRENNLAND GAP 7.5

District: UNION County: GRANT
Latitude: 800 Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 7460 Feet West of 79 Deg. 12 Min. 30 Sec.

Company: CARRIZO (MARCELLUS) WV LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
500 DALLAS, SUITE 2300 HOUSTON, TX 77002	13-3/8"	398'	398'	552 cft
Agent:	9-5/8"	3,288'	3,288'	1362 cft
Inspector:	5-1/2"	13,466'	13,466'	2558 cft
Date Permit Issued: 10/26/11				
Date Well Work Commenced: 01/09/12				
Date Well Work Completed: 5/26/12				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 10,271'				
Total Measured Depth (ft): 13,476'				
Fresh Water Depth (ft.): 100'				
Salt Water Depth (ft.): NA				
Is coal being mined in area (N/Y)? NO				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s) NONE				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation MARCELLUS SHALE Pay zone depth (ft) 9,800

Gas: Initial open flow 635 MCF/d Oil: Initial open flow 0 Bbl/d

Final open flow 754 MCF/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 48 Hours

Static rock Pressure 1000 psig (surface pressure) after _____ Hours

Second producing formation _____ Pay zone depth (ft) _____

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow _____ MCF/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ Hours

Static rock Pressure _____ psig (surface pressure) after _____ Hours

Received
Office of Oil & Gas

JAN 11 2013

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Carola Pruitt
Signature

01/10/13
Date

02/15/2013

Jordan Run (370)

Were core samples taken? Yes _____ No X

Were cuttings caught during drilling? Yes X No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list _____
DENSITY, RESISTIVITY, SONIC & ECS LOGS

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

PERFORATED AND FRAC'D 12 STAGES FROM 10,273' (md) - 13,342' (md) WITH
3,889,600 LBS SAND AND 96,904 BBLs FLUID

Plug Back Details Including Plug Type and Depth(s): KICK-OFF PLUG: 272 SACKS CLASS A
9,974' - 10,202'

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
DK GREY SILTSTONE	0		600
GREY SANDSTONE	600		1100
RED/BROWN SHALE	1100		1900
DK GREY LIMESTONE	1900		2300
DK GREY SILTSTONE	2300		3500
DK GREY SHALE	3500		4450
LT GREY SANDSTONE	4450		4600
LT GREY SILTSTONE	4600		4900
DK GREY SHALE	4900		5500
LT GREY SILTSTONE	5500		5700
DK GREY SHALE	5700		9358
- TULLY LIMESTONE	9358		9371
- HAMILTON SHALE	9371		9800
- UPPER MARCELLUS SHALE	9800		9843
- CHERRY VALLEY LIMESTONE	9843		9895
- LOWER MARCELLUS SHALE	9895		9963
- ONONDAGO	9963		10090
- ORISKANY SANDSTONE	10090		

02/15/2013