Atlanta Property Inspections HOME INSPECTION REPORT



300 Saddlebrook Drive, Roswell, GA 30075
Inspection prepared for: Grant Earls & Rachael Earls

Date of Inspection: 6/30/2020 Time: 1:30 PM Age of Home: 40 Years Old (1980) Size: 3100 SF Weather: Sunny, Dry Soil, 85 - 90 Degrees

Inspector: Jeremy Patterson

ASHI Certified Home Inspector
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Email: jaypatterson1381@gmail.com





INSPECTION STANDARDS AND LIMITATIONS:

The Inspection will be conducted under the nationally recognized, professional inspection standards and **Code of Ethics** of the **AMERICAN SOCIETY OF HOME INSPECTORS (ASHI)** and will exceed the ASHI Standards Of Practice. Copies of both ASHI documents can be found online at "www.ASHI.org".

This building inspection is a LIMITED VISUAL INSPECTION of the above property, at the time of this inspection, and is not intended as a warranty or guarantee of any type. The inspection is not technically exhaustive and all encompassing, some detectable deficiencies may go unreported. The inspector is a generalist, not a specialist in all disciplines. Although the inspection is thorough in approach and scope, it is not always possible to identify **all deficiencies and repairs needs** in or around the home. It is understood that the inspection is visual in nature and that the report is furnished on an "opinion only" basis. The inspection firm (Atlanta Property Inspections, Inc.) assumes no liability and shall not be liable for any mistakes, omissions or errors in judgement beyond the cost of the inspection report nor for the cost of repairing any defects or conditions, or for repairs or replacement subsequent to the date of the inspection. Client is advised to read and understand the conditions of the Pre-Inspection Agreement which list in detail the inspection limitations and exclusions. In cases where the client does not attend the Home Inspection and does not sign the Pre-Inspection Agreement, client's acceptance and use of this report will be considered as acceptance of the conditions listed in the Pre-Inspection Agreement.

GLOSSARY OF TERMS:

APPEARS SERVICEABLE: Item inspected is functioning as intended, no repair needs found.

REPAIR RECOMMENDED: Item inspected was found to need repair but does not affect the safety of the homes occupants.

REPAIR ADVISED: Item inspected was found to be deficient and needs repair, the repair is considered a high priority.

FURTHER EVALUATION: Additional evaluation is recommended or advised by a professional contractor for more information regarding repair needs and cost.

CONTINUE TO MONITOR: The item inspected should be monitored far any future changes in condition and may require future repairs.

SAFETY CONCERN / HAZARD: The item inspected is deficient and may be an unsafe or hazardous condition, further evaluation and repair is advised as soon as possible.

GOOD NEWS! Positive features are mentioned when observed and can include building upgrades, energy efficiency improvements, and new equipment.

MINOR REPAIRS: The approximate repair value should normally cost less than \$300 each item.

MODERATE REPAIRS: The approximate repair value of between \$300 to \$1,000 each item.

MAJOR REPAIRS: The approximate repair value of a minimum of \$1,000 or more, each item.

CLIENT RECOMMENDATION: Suggest that the client consider changing or improving an item or function.

INSPECTION SUMMARY:

EXTERIOR	GROUNDS:	
Page 6	FENCING / VEGETATION:	• Climbing vegetation / vines were observed on the exterior walls which is not recommended. Removal of all exterior wall climbing vegetation is suggested.
EXTERIOR	WALLS:	
Page 8	EXTERIOR TRIM:	 Damaged wood trim was noted at the lower portions of the far left and far right front porch roof columns (see photo). Replacement of the affected wood trim is recommended.
Page 9	FASCIA / SOFFIT:	 Damaged wood fascia and / or soffit boards were observed at the following locations: 1. The fascia at the front left corner roof; 2. The fascia and soffit at the rear roof below the chimney; Replacement of the damaged wood is recommended; in addition, further evaluation is recommended to determine the source of the water damage and to make necessary repairs.
Page 9	PAINTING / CAULKING:	Peeling paint and bare wood was noted at the screened patio enclosure. Repainting is suggested to to fully seal and protect this location.
ROOF, GUT	TERS, CHIMNE	:Y:
Page 11	ROOF:	 The front left roof surface has an excessive amount of moss growth which is not recommended (see photo). Moss can have a negative effect on proper shingle drainage and can lead to roof leaks if not corrected. Removal of all moss growth is recommended to allow the roof to drain correctly. Shingle replacement was observed on the roof at the right side of the front porch (see photo). The repairs appear to be adequate, continue to monitor. It is suggested that client ask seller for any available disclosure information regarding this repair.
ATTIC:		

Page 15	ATTIC LEAKS:	• Evidence of multiple roof leaks were observed in the attic at the chimney and at the plumbing vent penetration above the master bathroom - water stains were noted on the roof decking at these locations as well as containers to catch moisture (see photos). This condition is evidence of possible roof leaks but could not be verified during this limited visual inspection. The stained areas and containers appear to be dry after recent heavy rains. It is recommended that client ask seller for full disclosure information regarding these leaks and any repairs made. If no information is available, further evaluation is recommended by a professional roofer to determine the full scope of repair needs and costs.
Page 16	ATTIC INSULATION:	Missing batt insulation was noted over portions of the vertical walls in the attic space. Bare sheetrock is present which will lead to an excessive amount of heat loss in winter and heat gain in the summer months. Correction is recommended.
Page 17	ATTIC FIRE SEPARATION:	• UPGRADE SUGGESTED - FIRE SAFETY: No fire separation is present at the wall opening below the second floor bathroom sink cabinet (see photo). Visibility into the attic is present. This condition does not meet current fire safety standards that call for this opening to be sealed or covered but was most likely not required when this home was originally constructed. As a fire safety upgrade, installation of a fire separation barrier is recommended and could include the use of wood, sheetrock, sheet metal, or in some cases 16" of unfaced insulation batts.
INTERIOR	•	
Page 20		A sheetrock ceiling repair was noted at the family room above the fireplace. It is suggested that client ask the seller for more information regarding this repair.
BATHROC	MS / LAUNDRY	
Page 24	LAUNDRY:	• Improper dryer ducting: The laundry dryer incorrectly terminates into the attic space above the exterior vent cover which is not advised. Dryer lint, which is highly flammable, is being distributed into the attic space. Correction is recommended so that the dryer vent correctly terminates outside or through the roof.
PLUMBING	3 :	
Page 25	PLUMBING SUPPLY:	• The main plumbing line cut-off valve and the pressure reducer valve could not be located during this inspection. Further evaluation is advised to locate these valves and to make them fully accessible for future repairs and inspections.
Page 26	WASHTUB SINK:	• The utility washtub sink is loose and is not adequately anchored to the floor or wall as needed to reduce stress on the supply piping and drain pipes. Correction is recommended.

Page 30	WATER HEATER:	• The 40 gallon gas water heater is too small for this home based on local plumbing codes that call for a 50 gallon gas tank for a home in this size range. This condition may lead to hot water shortages in some cases. Replacement of the tank is suggested with a larger 50 gallon tank instead.
		• BUDGET FOR REPLACEMENT: Due to the advanced age of this aging gas water heater, client should budget for replacement of the water heater tank soon. The water heater tank is at, or past, the normal expected lifespan of 10 years.
		CLIENT NOTE - BE AWARE: Because of newer standards and building codes that affect water heaters, the cost of water heater replacement has gone up significantly and may be more than most people are expecting. Plumbers may tell you that there are "code violations" that need to be addressed during tank replacement. Beware of big box stores and larger plumbing companies that will upcharge for many additional items, some that may not be necessary or required. Some newer gas tanks will need additional electrical wiring for condensing fans and may require other installation modifications.
		For these reasons, newer water heater tanks will cost more than replacing water heaters in the past - client should budget for a major expense. It is strongly suggested that client get multiple quotes and check pricing before committing to a new tank.
ELECTRIC	CAL SYSTEM:	
Page 33	RECEPTACLES:	• Incorrect electrical, safety concern: The outlet located at the exterior screened patio is not the required weatherproof type. This condition is a safety concern and a violation of the National Electric Code (NEC). Correction is advised by a licensed electrician to meet the safety requirements of the NEC.
Page 34	GFCI / AFCI PROTECTION:	• CLIENT RECOMMENDATION: With the exception of the bathrooms, no GFC protection is present in this home which is a safety concern. Due to the age of this home, GFCI protection may not have been required at the time of this home's original construction. Installation of GFCI outlets is advised now as a safety upgrade at the following locations: all exterior outlets, all garage outlets, all bathroom outlets, all kitchen countertop outlets, any jetted tubs, and all outlets within 6 feet of a sink.
		Duplicate GFCI protection was found at the left side master bathroom vanity outlet. This condition is not recommended or needed and is considered a minor wiring mistake. The GFCI outlet is tripped off at two locations and will need to be reset at hall bathroom first, before the other GFCI outlet will reset. Further evaluation and repair is suggested by a licensed electrician.

THERMOSTATS / FILTERS / DUCTING:						
Page 40	HVAC DUCTING:	• Both the first floor and the second floor are ducted off the same HVAC system which is not advised. This condition was common at the time of this home's original construction but is no longer allowed. This condition can lead to poor performance issues on both floors with the upstairs floor level noticeably warmer all year round, not enough air conditioning in the summer and too much heating in the winter. One option is to consider installation of a dual thermostat system that operates off of the single HVAC system using motorized dampers that open and close the ducts as needed for zoned temperature control on both floors. For more information, consult with a professional HVAC contractor.				

EXTERIOR GROUNDS:

GRADING / DRAINAGE:

Proper grading of the soil and proper drainage around the home's foundation area is one of the most important aspects of the property because of the direct and indirect damage that can be caused by water intrusion issues. Water is one of the home's biggest adversaries and can have a negative impact on concrete surfaces, basements and crawl spaces, deck and porch footings, and other components around the homes exterior grounds. While the performance of lot drainage may appear serviceable at the time of this visual inspection, the inspector can not predict the future performance of the drainage systems as conditions constantly change. The inspection is limited to conditions at the time of this inspection and any obvious signs of past problems.

EXTERIOR DRAINAGE: OK Minor Moder Major Recom • The overall slope of the yard is flat; • The overall condition of the exterior grading and drainage appears to be adequately sloped and maintained. No concerns were observed, continue to maintain good drainage conditions as needed. DRIVEWAY / SIDEWALK: OK Minor Moder Major Recom • A concrete driveway and sidewalk are present. • The overall condition of the driveway and sidewalk is good; typical concrete cracks were observed and are not considered to be significant. Continue to monitor and seal if necessary. FENCING / VEGETATION: OK Minor Moder Major Recom • The overall condition of the exterior grounds and vegetation

observed except as mentioned below:

• Climbing vegetation / vines were observed on the exterior walls which is not recommended. Removal of all exterior wall climbing vegetation is suggested.

appears to be adequately maintained, no concerns were



Climbing vegetation at rear right wall

Grant Earls	300 Saddlebrook Drive, Roswell, GA
PORCH:	
OK Minor Moder Major Recom	A brick porch is present at the front entry.
	The front porch appears serviceable, no concerns were noted.
PATIO:	
OK Minor Moder Major Recom	• A partially screened tile and stone patio is present, the rear patio appears serviceable; no concerns were noted.

EXTERIOR WALLS:

EXTERIOR WALLS:

OK	Minor	Moder	Major	Recom	The boson has been been added to the second of the second
					This name has brick veneer at the exterior walls. Brick provides the
X					This home has brick veneer at the exterior walls. Brick provides the home with an attractive and low maintenance exterior and also acts as
					a good insulator for improved energy efficiency.

Vinyl siding is present.

• The exterior brick and siding appears serviceable; no concerns were noted.

EXTERIOR TRIM:



- Vinyl trim is present as well as some wood trim.
- The exterior trim appears serviceable except as noted below:
- Damaged wood trim was noted at the lower portions of the far left and far right front porch roof columns (see photo). Replacement of the affected wood trim is recommended.







Damaged trim at front porch roof column

FASCIA / SOFFIT:



Wood soffit / fascia are present.

- The exterior soffit / fascia appears serviceable except as noted below:
- Damaged wood fascia and / or soffit boards were observed at the following locations:
- 1. The fascia at the front left corner roof;
- 2. The fascia and soffit at the rear roof below the chimney;

Replacement of the damaged wood is recommended; in addition, further evaluation is recommended to determine the source of the water damage and to make necessary repairs.





Damaged fascia at front left corner roof

Damaged fascia and soffit at rear roof below chimney

PAINTING / CAULKING:

- The overall condition of the exterior painting and caulking appears to be adequate, except as noted below:
- Peeling paint and bare wood was noted at the screened patio enclosure. Repainting is suggested to to fully seal and protect this location.

ROOF, GUTTERS, CHIMNEY:

ROOF INSPECTION LIMITATIONS:

The following roof inspection is an opinion of the general quality and condition of the roofing system and its components at the time of this inspection. The inspection is a limited visual inspection of the roofing system.

The inspector does not offer an opinion or warranty as to whether the roof leaks or may be subject to future leaks. Client is advised to inspect the roof annually and to maintain the roof and make repairs as needed.

ROOF ACCESS:

Roof access is at the sole discretion of the inspector, the roof may be inspected by walking the roof, viewed from a ladder, from the ground using binoculars and / or other methods of inspection. Our inspection methods meet or exceed the professional standards of the American Society of Home Inspectors (ASHI). Work safety, weather conditions, and potential material damage are the governing factors in deciding whether to walk the roof or not.

REPAIRS:

It is our strong recommendation that all roofing repairs or evaluations recommended in this report be conducted by a professionally licensed and insured roofing contractor, during the buyers due diligence period; all repairs should meet all professional roofing industry standards, warranties, and applications.

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RU	UL	DEO	CRIP		/ ACCESS:

OK	Minor	Moder	Major	Recom		
					 ROOF DESCRIPTION: Intersecting gable style roof, Ste 	eep
X					• ROOF DESCRIPTION: Intersecting gable style roof, Stepitch, 13 years old (2007)	•

POSITIVE FEATURE!

This roof has architectural or profile shingles; this attractive and slightly more expensive shingle is a significant upgrade from traditional roof shingles. It also has a longer warranty period of 25-35 years and should provide an extended lifespan when compared to traditional roof shingles. This type of shingle also performs better in storms and when exposed to hail.

• ROOF INSPECTION ACCESS: The roof was viewed and inspected from the ground with binoculars.



Architectural roof shingles present

ROOF:

OK	Minor	Mode	ŗ	Major	F	Rec
x	X					

- The overall condition of the roof appears serviceable; the following minor repair(s) is recommended:
- The front left roof surface has an excessive amount of moss growth which is not recommended (see photo). Moss can have a negative effect on proper shingle drainage and can lead to roof leaks if not corrected. Removal of all moss growth is recommended to allow the roof to drain correctly.
- Shingle replacement was observed on the roof at the right side of the front porch (see photo). The repairs appear to be adequate, continue to monitor. It is suggested that client ask seller for any available disclosure information regarding this repair.





Shingle replacement at front roof

Excessive moss growth at front left roof

ROOF FLASHING:

OK	Minor	Moder	Major	Recom
x				

- Metal roof flashing is present; the visible roof flashings appear serviceable; no concerns were noted.
- Black vinyl boots are present at the plumbing vent stacks.
 The visible roof flashings appear serviceable; no concerns were noted.

GUTTERS:

OK	Minor	Moder	Major	Recor
X				

 Aluminum gutters and downspouts are present. The gutters appear to be in good working condition; continue to monitor and clean as needed.

CHIMNEY:

OK	Minor	Moder	Major	Recor
X				

• A wood frame chimney is present with brick veneer. The chimney appears serviceable; no concerns were observed.

GARAGE:

GARAGE:

OK Minor Moder Major Recon

- An attached two car garage is present.
- The garage appears serviceable. The garage floor has adequate slope to the outside and the garage walls and ceilings appear to be in good condition.
- Typical cracks were noted at the garage floor. None appear to be structurally significant. Continue to monitor for any changes in crack length or width.

GARAGE DOOR:

OK	
X	

Moder Major Recom

A single wood overhead door is present. The garage door appears serviceable; no concerns were noted.

OVERHEAD DOOR OPENER:



• UPGRADE SUGGESTED - DOOR OPENER:

An outdated overhead door opener is present. The opener does not have the automatic reverse sensors located in the lower doorway as is now required for safety. These sensors reverse the door during the downward cycle if something or someone passes through the opening during operation of the door opener. As a safety upgrade, it is recommended that client consider replacing this outdated opener with one that meets all current safety standards.

GARAGE FIRE SEPARATION:



SUGGESTED UPGRADE - FIRE DOOR:

The entry door from the garage into the home is not a firerated type of door as is now required in newer construction. It is likely that this requirement was not in place at the time of this homes original construction.

Because garages are one of the primary locations for residential house fires, fire rated doors are now required at this location to prevent the spread of fire from the garage into the home. Fire-rated doors can be solid wood or steel coated with no glass.

As a fire safety upgrade, it is recommended that client consider replacement of this door with a fire-rated type door instead. A replacement door can also improve energy efficiency at this location and can be a better door for security.

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SLAB FOUNDATION:

SLAB FOUNDATION:

X Minor Moder Major Recom

- A slab foundation is present and is constructed of poured concrete. The foundation appears serviceable, no concerns were noted during this limited visual inspection.
- The perimeter of the foundation slab is not fully visible due to the presence of brick veneer.

WOOD DESTROYING INSECTS:

OK	Minor	Moder	Major	Recom
		ш	ш	

• CLIENT RECOMMENDATION:

A termite protection bond is recommended for this home to protect the home's structure from future termite activity and potential damage. Consult with a professional pest control contractor for more information and a price quote.

RODENTS:

OK	
X	

Minor	Mode	r	Major	F	Recor

• There were no signs of any rodent activity during this limited visual inspection.

ATTIC:

ATTIC ACCESS:

OK_	Minor	Moder	Major	Recom
x		П		

• The attic is accessible by two full doorways in the second floor bedroom and a pull down ladder in the garage. The attic access appears serviceable; no concerns were noted.

ATTIC / ROOF FRAMING:

-					4-
	ОК	Minor	Moder	Major	Recor
	x				

- Conventional framing is present in the attic and consists of 2 x 6 roof rafters and 2 x 8 ceiling joists spaced 16 inches on center. The roof decking has been framed with oriented strand board (OSB).
- The attic and roof framing appears serviceable during this limited inspection, no concerns were noted.



Attic framing and insulation looks good

ATTIC LEAKS:

OK	Minor	Moder	Major	Recom
		X		

• Evidence of multiple roof leaks were observed in the attic at the chimney and at the plumbing vent penetration above the master bathroom - water stains were noted on the roof decking at these locations as well as containers to catch moisture (see photos). This condition is evidence of possible roof leaks but could not be verified during this limited visual inspection. The stained areas and containers appear to be dry after recent heavy rains. It is recommended that client ask seller for full disclosure information regarding these leaks and any repairs made. If no information is available, further evaluation is recommended by a professional roofer to determine the full scope of repair needs and costs.





Container to catch leaks below master bathroom plumbing vent

Water stains and container in attic at chimney

ATTIC VENTILATION:

OK	Minor	Moder	Major	Recom
x				

- The roof and attic ventilation consists of:
- Soffit vents and ridge vents;
- The roof and attic ventilation appears to be adequate, no concerns were noted.

ATTIC INSULATION:

ОК	Minor	Moder	Major	Recon
X		X		

- Fiberglass Blown approximately 12 inches in depth or R30.
- Fiberglass batts 6 inches or R19.
- The attic insulation appears serviceable, no concerns were noted except as mentioned below.
- Missing batt insulation was noted over portions of the vertical walls in the attic space. Bare sheetrock is present which will lead to an excessive amount of heat loss in winter and heat gain in the summer months. Correction is recommended.



Missing insulation at vertical walls of skylight

ATTIC FIRE SEPARATION:

UN	IVIIIIVI	woder	iviajoi	Recom	LIBODA DE QUAGESTED. EIDE GAEETV
					• UPGRADE SUGGESTED - FIRE SAFETY:
	X				No fire separation is present at the wall opening below the second floor
					bathroom sink cabinet (see photo). Visibility into the attic is present.
					This condition does not meet current fire safety standards that call for
					this opening to be sealed or covered but was most likely not required
					when this home was originally constructed. As a fire safety upgrade,
					installation of a fire separation barrier is recommended and could
					include the use of wood, sheetrock, sheet metal, or in some cases 16"
					of unfaced insulation batts.



Opening into attic below second floor bathroom sink

ATTIC RODENTS:

OK	Minor	Moder	Major	Recom
x				

• At the time of this home inspection, there is no visible evidence of rodent activity in the attic during this limited visual inspection of the accessible areas of the attic space.

IMPORTANT NOTE: As a courtesy, we will mention visible evidence of rodent activity when we see it; however, because we are not certified pest control contractors, we can not guarantee that we will be able to identify and report on all previous or active rodent activity in the attic, including bats that may be roosting outside the attic space. We will not be responsible for any rodent activity discovered after our inspection.

As a precaution, we strongly advise that client schedule a professional termite inspection that includes an inspection of the attic spaces to determine the presence of rodent, animal, or bat activity in the attic.

INTERIOR:

INSPECTION LIMITATIONS - FLOORS:

The flooring inspection is limited to a visual inspection only. The inspector does not lift or remove floor coverings such as carpeting or vinyl flooring to evaluate the floor. No furniture, cabinets, storage items, or rugs are moved to evaluate floorings. This inspection is limited to visible and accessible areas of the floor system. The inspector does not report on cosmetic defects with the floors such as carpet stains, carpet damage, carpet stretching needs, hardwood floor scratches or hardwood floor stain / color fading.

INSPECTION LIMITATIONS - WINDOWS:

During our inspection of the windows, we will test and open a representative number of windows throughout the home. Our goal is to meet or exceed the professional standards of practice for the American Society of Home Inspectors (ASHI) during our window inspections. However, our inspection of the windows is limited: We do not test or open every window in the home; we do not move furniture to open or test windows; we do not repair or unstick windows that have been painted shut; we do not test windows that are cracked or damaged. We recommend all repairs of the windows be conducted by a professional window repair contractor. In some cases, further evaluation is needed to fully evaluate repair needs and costs beyond the scope of this limited inspection. We assume no liability for hidden damage from unprofessional patch repairs to wood window frames or wood window sills, including damage to other components of the home, particularly when these types of repairs cover up the initial damage. If any patch repairs are noted in this report, client is advised to have this type of repair evaluated further by a professional window repair contractor to determine the adequacy of the repair. We will accept no liability for windows with defective thermal seals (moisture inside the glass) during wet or rainy periods where visibility of the glass is restricted.

INSPECTION LIMITATIONS - CEILINGS:

During the inspection, it is common to find water stains in the sheetrock ceilings and walls. Because this is a limited visual inspection, we cannot fully evaluate this condition or make a determination whether an active leak is present. If water stains are visible, we recommend that the buyer ask the home seller for full disclosure information regarding this condition.

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- Wood entry door
- Wood entry door with glass
- The exterior doors appear serviceable and operate normally; no concerns were noted.

CLIENT RECOMMENDATION:

As a standard security measure, it is recommended that client consider installation of new door locks or rekeyed locks after move-in to insure that no one else has a copy of the house keys.

INTERIOR DOORS:

OK	Minor	Mo	oder	Major	Recom	N was and a second of the seco	
		Г				$_{\parallel}$ • Wood interior doors are present; the interior doors appea	ırs
X						 Wood interior doors are present; the interior doors appea to be serviceable and functional. 	

WINDOWS:

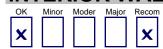
ОК	Minor	Moder	Major	Recon
X				

POSITIVE FEATURE!

This homes windows have been replaced and upgraded with high efficiency replacement windows. This significant upgrade is expected to help lower energy costs by reducing heat loss out of the home and air infiltration into the home. These windows also provide a better sound barrier to the outside. In addition, this newer type window has low - E glass (low emissivity glass) which is now required by local building codes for improved energy efficiency. This type of glass has a thin metallic coating that is designed to reduce heat gain and UV penetration in the summer months as well as heat loss in the colder winter months and is designed for improved energy efficiency.

- Vinyl clad frames with double pane glass.
- The overall condition of the windows is OK; a representative number of windows were operated and found to be functional.

INTERIOR WALLS / CEILINGS:



- The interior walls and ceilings are covered with sheetrock / gypsum board. The overall condition of the interior walls and the ceilings appears to be serviceable during this limited visual inspection; no concerns were noted except as listed below:
- A sheetrock ceiling repair was noted at the family room above the fireplace. It is suggested that client ask the seller for more information regarding this repair.



Ceiling repair in family room

Grant Earls	300 Saddlebrook Drive, Roswel
FLOORS:	
OK Minor Moder Major Recom	• The general condition of floors appears to be serviceable. NOTE: This inspection is limited due to floor coverings and does not evaluate cosmetic conditions with floor coverings such as carpet stains, floor scratches, etc. Floor conditions below carpeting and underneath area rugs will not be reported in this inspection and are excluded. We will not move the home sellers furniture in order to inspect flooring conditions. Buyer is advised to move all area rugs as needed for a more full evaluation of the floor conditions below the rugs.
INTERIOR STAI	RS:
OK Minor Moder Major Recom	• The interior stairs appear to be serviceable; no concerns were noted.
FIREPLACE:	
OK Minor Moder Major Recom	• Fireplace Location: Family room Fireplace Type: Prefabricated Metal with gas logs

The fireplace appears serviceable; no concerns were observed. Annual inspections are recommended along with regular cleaning of the chimney flue as needed.

KITCHEN:

	MITOTILIN.
KITCHEN CABIN	NETS:
x	 Wood cabinets and solid surface countertops are present. The kitchen cabinets and countertops appears serviceable, no concerns were noted.
KITCHEN SINK /	FAUCET:
	 A stainless steel sink is present; the kitchen sink and faucet appear serviceable; no concerns were noted.
STOVE / OVEN /	COOKTOP:
OK Minor Moder Major Recom	An electric cooktop is present;
	• An electric oven is present;
	 Appears serviceable. The cooktop and oven were both tested and appear to be functioning normally.
DISHWASHER:	
X ,	 The kitchen dishwasher was operated through a normal wash, rinse and dry cycle. Operation was normal; no concerns were noted.
KITCHEN VENTI	ILATION:
	 No kitchen vent fan / hood is present. Although not required by local building codes, installation of some form of kitchen cooking ventilation is suggested.
MICROWAVE O	VEN:
	 The microwave oven was tested and appears to be operating normally.
DISPOSAL:	
	 Appears serviceable; the disposal was tested and operated normally.
REFRIGERATOR	₹:
	 The kitchen refrigerator is not within the scope of this inspection and was not inspected. If the refrigerator is staying with the home, it is suggested that client inspect the refrigerator for condition issues and performance.

BATHROOMS / LAUNDRY

Bathrooms can consist of many features from jacuzzi tubs and showers to toilets and bidets. Because of all the plumbing involved it is an important area of the house to look over. Moisture in the air and leaks can cause mildew, wallpaper and paint to peel, and other problems. The home inspector will identify as many issues as possible but some problems may be undetectable due to problems within the walls or under the flooring.

NUMBER OF BATHROOMS:

3 and a half baths.

BATH SINKS:
X Minor Moder Major Moder Major Moder Major Moder Major Moder Major Moder Mode
BATH TOILETS:
X Minor Moder Major Pecom • The bathroom toilets were operated and tested and all appear to be serviceable.
POSITIVE FEATURE! The toilets are the newer low flow water saving toilets that use only 1.6 gallons per flush (GPF) instead of the older type toilet that uses 3-5 GPF.
BATH TUBS / SHOWERS:
X Minor Moder Major Majo
BATHROOM VENTILATION:
X Minor Moder Major Pecom • A window and vent fan are both present; the bathroom ventilation appears serviceable, no concerns were observed.

LAUNDRY:

ОК	Minor	Moder	Major	Reco
X	X			X

- The laundry room is located near the kitchen.
- The plumbing hookups appear to be serviceable but were not tested during this very limited visual inspection. The electrical hookups appear to be OK.

LIMITED INSPECTION:

- 1. The laundry appliances, if present, were not tested.
- 2. The laundry dryer duct is not fully visible for inspection, we are unable to view the interior of the duct. Continue to monitor and keep the duct clean and free from lint buildup.

• CLIENT RECOMMENDATION:

The laundry dryer outlet still has the older 3 prong receptacle; it is suggested that client upgrade this outlet to the newer 4 prong outlet with improved grounding (required after 1998).

• Improper dryer ducting: The laundry dryer incorrectly terminates into the attic space above the exterior vent cover which is not advised. Dryer lint, which is highly flammable, is being distributed into the attic space. Correction is recommended so that the dryer vent correctly terminates outside or through the roof.



Dryer vent terminating in attic space

PLUMBING:

PLUMBING INSPECTION LIMITATIONS:

Because this inspection is limited to a visual inspection only, all underground piping related to water supply, sewer or septic waste drainage, gas piping, or irrigation use are specifically excluded from this inspection. Plumbing leakage, clogged drains or obstructions, or corrosion damage in any of the underground plumbing piping or gas piping system can not be detected during this limited visual inspection. This inspection company assumes no liability for any underground leaks or clogs and any damage to the home associated with underground conditions. Underground septic systems, underground sewer lines, gray water tanks, backflow preventer valves, underground gas piping, and underground irrigation systems are also not within the scope of this inspection. In addition, overflow drains for tubs and sinks are not flooded or tested during this inspection. It is our strong recommendation that all recommended plumbing or gas piping repairs or further evaluation listed in this report should be conducted by a licensed, professional plumbing contractor prior to closing. All repairs should meet the minimum standards and requirements of the Georgia Plumbing Code. It is suggested that client request written receipts and warranties for all plumbing work completed.

PLUMBING SUPPLY:

OK	Minor	Moder	Major	Recom	
					 The water service is public and appears serviceable; the underground
X	X				 The water service is public and appears serviceable; the underground piping appears to be Copper. No concerns were observed.
					•

- Copper piping is present. Copper piping has been the most commonly used piping for residential housing until very recently when plastic piping has gained more popularity. Copper piping is known for its reliability, customer satisfaction, low maintenance needs, and has withstood the test of time well. Copper is corrosion resistant, will not burn or give off toxic gases, and conducts heat well.
- The supply piping appears to be serviceable, no concerns were noted except as mentioned below. A water pressure reading was taken at the rear hose bib and was found to be normal at 50 PSI.
- The main plumbing line cut-off valve and the pressure reducer valve could not be located during this inspection. Further evaluation is advised to locate these valves and to make them fully accessible for future repairs and inspections.



Water pressure normal - 50 PSI

WASHTUB SINI	K:
OK Minor Moder Major Recom	A plastic washtub sink is present at the laundry room.
	• The utility washtub sink is loose and is not adequately anchored to the floor or wall as needed to reduce stress on the supply piping and drain pipes. Correction is recommended.
PLUMBING DRA	AINS / SEWAGE:
OK Minor Moder Major Recom	• A public sewer system appears to be present with plastic drain pipes. (NOTE: The presence of a sewer system can not be guaranteed during this inspection; client is advised to confirm the type of waste system of the home).
	• The drain piping appears serviceable; no concerns were found.
GAS SERVICE:	
OK Minor Moder Major Recom	 The gas meter is located at the left side exterior wall and appears serviceable; no concerns were found. (NOTE: The gas lines inside the walls, ceilings and floors are not fully visible for inspection and could not be evaluated).



Gas meter at left exterior

WATER HEATER:

WATER HEATER MAINTENANCE RECOMMENDATIONS:

1. TEST THE T&P VALVE:

Client is advised to test the temperature and pressure relief valve (TPR valve) at least once per year to insure norman valve operation and safe performance of the water heater. Lack of testing can lead to a potential safety hazard. Corrosive buildup could form inside the valve causing the valve to lock up and fail to open. The valve should open thermostatically, on its own, if needed during an overheating event or due to increased pressure inside the tank. This valve is easily tested by lifting the lever and allowing water to exit the tank through the attached drain line. When done testing, the valve should return to its original closed position and seal itself. If the valve fails to fully open, fully close,or if the valve leaks several minutes after testing, valve replacement may be needed by a professional plumber.

2. DRAIN THE TANK:

The water heater manufacturer recommends draining the water heater at least once per year to flush unwanted soil sediment and corrosive mineral deposits collecting inside the lower tank. The draining process includes turning off the power or gas to the tank, turning off the cold water supply to the tank, attaching a garden hose to the drain valve at the bottom of the tank, and opening the drain valve to release the water. The tank may not need to be fully drained, sometimes only 5-10 gallons needs to be released. Monitor the water clarity and stop draining the tank after the water quality clears up. When the draining process is complete, close the drain valve and turn the cold water supply back on.

If your hot water is supplied by a tankless system, the maintenance recommendations are very different from tank systems; please read the owners manual for specific draining and rinsing requirements and maintenance procedures.

3. READ THE OWNER'S MANUAL:

Read the water heater owner's manual for more information concerning tank safety and tank maintenance.

WATER HEATER:

OK	 Minor	Moder	ſ.	Major	F	Recom	١
x				x			

- The water heater is operated by natural gas and is located in the second floor bedroom closet.
- TANK DESCRIPTION: GE, 40 Gallons, 18 years old (2002)

POSITIVE FEATURE!

A recirculating pump is present for the hot water system. This type of pump keeps the hot water circulating in a loop to provide on-demand hot water at baths and kitchen and can also help to conserve water.

NOTE: This limited visual inspection does not include a performance test of the recirculating pump to measure the effectiveness of the hot water delivery system.

 The gas water heater appears serviceable, no concerns were noted except as mentioned below. The gas piping, exhaust venting and combustion air requirements all look good.

The temperature and pressure relief valve was NOT tested. Due to concerns with leaks, we do not test this type of valve. As a maintenance item, client is advised to test this safety valve at least once per year to insure normal valve operation.

A thermal <u>expansion tank</u> / valve is present on the cold water line and appears serviceable.

- The 40 gallon gas water heater is too small for this home based on local plumbing codes that call for a 50 gallon gas tank for a home in this size range. This condition may lead to hot water shortages in some cases. Replacement of the tank is suggested with a larger 50 gallon tank instead.
- BUDGET FOR REPLACEMENT:

Due to the advanced age of this aging gas water heater, client should budget for replacement of the water heater tank soon. The water heater tank is at, or past, the normal expected lifespan of 10 years.

CLIENT NOTE - BE AWARE: Because of newer standards and building codes that affect water heaters, the cost of water heater replacement has gone up significantly and may be more than most people are expecting. Plumbers may tell you that there are "code violations" that need to be addressed during tank replacement. Beware of big box stores and larger plumbing companies that will upcharge for many additional items, some that may not be necessary or required. Some newer gas tanks will need additional electrical wiring for condensing fans and may require other installation modifications.

For these reasons, newer water heater tanks will cost more than replacing water heaters in the past - client should budget for a major expense. It is strongly suggested that client get multiple quotes and check pricing before committing to a new tank.



Gas water heater in bedroom closet



Recirculating pump at water heater

ELECTRICAL SYSTEM:

ELECTRICAL INSPECTION LIMITATIONS:

This is a visual inspection of the electrical system only, wiring inside walls, ceilings and floors are not visible for inspection. The panel cover will be removed (if accessible) and will be visually inspected for defects or violations. Testing of the main breaker is not within the scope of this inspection. A representative number of receptacles/outlets will be tested for proper grounding, polarity and GFCI protection if needed. Wiring devices behind furniture or in use for computers, TVs, etc. will not be tested. Light fixtures will be tested but light bulbs will not be changed if the light is inoperative. Evaluation of low voltage wiring, phone and CATV wiring, security system wiring, intercom or stereo wiring is not within the scope of this inspection. Electrical concerns and problems, by their nature, often involve hazards with fire safety or personal life safety and should be considered with utmost seriousness. Most repairs suggested in this report should be conducted by a licensed electrician, familiar with the safety standards and requirements of National Electric Code (NEC). Electrical repairs attempted by anyone other than a licensed electrician should be approached with significant caution.

GFCI PROTECTION - SELF TEST REGULARLY:

GFCI protection (Ground Fault Circuit Interrupt) is now required by the National Electric Code (NEC) to protect occupants against electric shock and injury at "wet locations" which includes outlets at all exterior location, all garage outlets, basements, all bathroom outlets, all kitchen countertop outlets, jetted tubs or hot tubs, and any outlet within 6 feet of a sink such as a wet bar or a laundry wash tub. Outlets near or around swimming pools are also included. Exceptions include outlets for washing machines, garage door openers, refrigerators and sump pumps. In older homes, GFCI protection may not be present in each of the required locations but is suggested as an upgrade for improved safety. Client is advised to test all GFCI protected outlets at least once per year to insure they are functioning properly; because there is a high failure rate with older GFCI outlets, many need replacement after just a few years. It is recommended that client purchase a simple GFCI outlet tester at the local hardware store or home center; this type of inexpensive tester (\$8) is a good addition to any tool box and will provide a more accurate test.

CK Minor Moder Major Recom The electrical service is underground - 110/220 volt; The electrical grounding consists of a single ground rod near the electrical meter.. The electrical service and grounding appears serviceable; no concerns were noted. A 200 amp main breaker is present at the main panel; appears serviceable, no concerns were noted. MAIN PANEL: OK Minor Moder Major Recom The main panel is located in the laundry room. Circuit breakers are present. The main panel box appears serviceable during a limited visual inspection inside the panel; no concerns were found.



Main electrical panel looks good

	\Box	TC	I CV	VIT		EC.
L	IGП	13	/ 3 V	VII	СΠ	ES:

OK	Minor	Moder	Major	Recom	
					 Appears serviceable - a representative number of lights and
X					• Appears serviceable - a representative number of lights and switches were tested and appear serviceable; no concerns
					were noted

POSITIVE FEATURES!

- 1. Motion activated spotlights are present at the exterior. This type of lighting can provide additional convenience lighting and security lighting such as illuminating a guest's arrival at the driveway or announcing an intruder's activities on the property. Security lighting is one of the most effective and least expensive security features the homeowner can install.
- 2. A street light is present on the property and will provide both convenience lighting and security lighting. The cost of the street light is often shared by the two property owners where the light is located and is reflected as a separate charge on the electric bill.

ELECTRICAL WIRING:

OK V	Minor	Moder	Major	Recom	 Appears serviceable, the visible wiring appears to be serviceable; no concerns were noted.
X					serviceable; no concerns were noted.

RECEPTACLES:

OK	Min
X	×

 Minor	Mode
X	

• CLIENT NOTE:

One or more wall outlets in the living room is controlled by a light switch at the entry door to the living room. This switch controlled wall outlet is required by the National Electric Code (NEC) when no ceiling light has been installed and is designed to turn on a lamp from the doorway that could be plugged in to the wall outlet.

- A representative number of receptacles / outlets were tested and appeared to be functional, except as noted below:
- Incorrect electrical, safety concern: The outlet located at the exterior screened patio is not the required weatherproof type. This condition is a safety concern and a violation of the National Electric Code (NEC). Correction is advised by a licensed electrician to meet the safety requirements of the NEC.



Screened patio outlet not weatherproof

GFCI / AFCI PROTECTION:

OK Minor Moder Major Recom

• CLIENT RECOMMENDATION:

With the exception of the bathrooms, no GFCI protection is present in this home which is a safety concern. Due to the age of this home, GFCI protection may not have been required at the time of this home's original construction. Installation of GFCI outlets is advised now as a safety upgrade at the following locations: all exterior outlets, all garage outlets, all bathroom outlets, all kitchen countertop outlets, any jetted tubs, and all outlets within 6 feet of a sink.

• Duplicate GFCI protection was found at the left side master bathroom vanity outlet. This condition is not recommended or needed and is considered a minor wiring mistake. The GFCI outlet is tripped off at two locations and will need to be reset at hall bathroom first, before the other GFCI outlet will reset. Further evaluation and repair is suggested by a licensed electrician.

FIRE SAFETY:

OK	Minor	Moder	Major	Recom
X				X

• The smoke detector alarms were tested and all responded to test button operation. It is suggested that client continue to test all smoke detectors regularly and change each 9 volt battery at least once a year.

• CLIENT NOTE:

A fire hydrant is near the property at the street. The presence of a fire hydrant close to the home may qualify this home for a homeowners insurance discount; contact your insurance agent for more information.

- THE FOLLOWING FIRE SAFETY UPGRADES ARE SUGGESTED:
- 1. PROVIDE INTER-CONNECTION OF DETECTORS: The smoke detectors are not interconnected (hard wired) as is currently required. This condition may not have been required at time of construction of this home. It is suggested that client consider upgrading the smoke detectors to include full interconnection of all smoke detectors in the home for improved fire safety. One other option is to consider installation of a wireless system of detectors that communicate via radio signals from floor to floor.
- 2. REPLACE OUTDATED DETECTORS: Outdated smoke detectors are present and should be considered for replacement and updating. The NFPA (National Fire Protection Association, Inc) recommends that smoke detectors be replaced after ten years of use. There have been significant changes and improvements to the sensors in the last 10 -20 years.
- 3. INSTALL FIRE EXTINGUISHERS: For improved fire safety, it is recommended that fire extinguishers be present in the home, one on each floor level. The extinguishers should be UL approved and an ABC type for residential use; the ABC type fire extinguisher assists in putting out several different types of fires commonly found in residential homes such as paper fires, grease fires in kitchens and electrical fires. Choose a quality unit that can be recharged after use. Good locations for fire extinguishers include one at each floor level with the garage, laundry room, bedroom hallways and the kitchen being the best locations. To prevent the chemical powders inside the fire extinguisher from compacting, each extinguisher should be shaken 2 times per year.

CARBON MONOXIDE DETECTORS:

OK	Minor	Moder	Major	Recom
		П		X

• UPGRADE SUGGESTED - ADD CARBON MONOXIDE DETECTORS:

Installation of a carbon monoxide detector is recommended as a safety upgrade. Current building codes have recently changed (Jan. 1, 2009) to require carbon monoxide detectors in new home construction. Because of this newer safety standard, the installation of C/O detectors is recommended as a safety upgrade.

Carbon monoxide detectors are recommended on each floor level of the home and at least one carbon monoxide detector should be located in the master bedroom to alert the adults in the home to a possible C/O problem. Other good carbon monoxide detector locations include the garage and other areas where gas appliances are located such as furnaces, fireplaces, and water heaters. If a gas water heater or furnace is located in an area such as a hallway closet near the bedrooms, a C/O detector is strongly advised in the hallway near the gas appliance but not closer than 5 feet from the appliance.

Since many C/O detectors are manufactured to the UL Standard 2034 which allows for C/O levels of 70 PPM (parts per million) for 3.5 hours before alarming, it is suggested that client install low level C/O detectors that have a visible digital readout to provide an increased awareness of possible changing conditions.

HEATING:

INSPECTION LIMITATIONS:

- 1. This inspection consists of a limited visual inspection of the Heating, Ventilation, and Air Conditioning (HVAC) components and is not technically exhaustive. The systems are inspected using normal access methods and thermostat controls; the systems are not dismantled or taken apart during this inspection.
- 2. Client is advised that the condition of the Heat Exchanger is NOT WITHIN THE

SCOPE OF THIS LIMITED VISUAL INSPECTION.

- 3. If the heating system is over 15 years old, a full heat exchanger inspection is advised by a professional HVAC contractor prior to purchase of the home, and annual heat exchanger inspections every year thereafter. In addition, installation of carbon monoxide detectors is also recommended in any home with aging furnace equipment.
- 4. The proper operation of humidifiers, float switches, condensate pumps, electronic dampers, UV air cleaners, duct air flow balancing systems, and electronic air filters are not within the scope of this limited inspection.
- 5. The adequacy of the heating or cooling supply is not analyzed during this limited inspection.
- 6. Evaluating or checking coolant / freon levels, as well as pressure balances within the refrigeration system are not within the scope of this limited inspection.
- 7. Annual inspections and service is recommended to properly maintain the cooling and heating systems.

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п	$\Box F$	T	IN	G	1	

OK	Minor	Moder	Major	Recom
X				X

- Gas Heating: Whole House Zone; Trane, located in the attic, 100,000 BTU, 6 years old (2014)
- 80% Efficency: This is the most common efficiency rating for gas furnaces.
- The heating system appears serviceable; the heating system was operated and was found to be functioning normally during a limited visual inspection, no significant concerns were noted. Continue to maintain the system and have it serviced regularly.
- A humidifier is present at this HVAC system. Because humidifiers are not within the scope of this inspection, it is recommended that further evaluation of the humidifier be conducted by a professional HVAC contractor to check for maintenance and cleaning needs.

CLIENT NOTE: Humidifiers are used only during the heating season and should be turned completely off during operation of the AC unit in spring and summer. The recommended humidistat setting in winter is 30% - 35% for our local climate.





Gas furnace in attic

Humidifier not within scope of inspection



Gas furnace heating normally - 119 degrees

AIR CONDITIONING:

AC UNIT 1:

OK	Minor	Moder	Major	Recom
X				

- Whole House Zone; Trane, 4 ton, 7 years old (2013)
- The AC unit appears serviceable during this limited visual inspection and test; the delivery temps were 54 degrees and the return air temps were 70 degrees with a return air differential of 16 degrees.

POSITIVE FEATURES!

1. This air conditioner has a 13 SEER rating (Seasonal Energy Efficiency Ratio). This 13 SEER system should be approximately 25% - 30% more efficient to operate than previous air conditioners that had a 10 SEER minimum rating. This means that it will cost approximately 25% - 30% less to cool your home, a significant energy savings. The 13 SEER minimum rating requirement began in January 2006.

2. This AC unit includes the newer refrigerant, R410-A, which is more environmentally friendly.



AC unit at exterior



AC cooling normally - 54 degrees

THERMOSTATS / FILTERS / DUCTING:

THERMOSTATS:

OK	Minor	Moder	Major	Recom
X				X

- The thermostat appears to be functional and working normally during testing of the HVAC system.
- Installation of a "Smart" thermostat is recommended; this type of thermostat has lots of new features over the traditional thermostats that can help save money and increase comfort. Most smart thermostats range in price from \$150 to \$300.

HVAC FILTERS:

OK	Minor	Moder	Major	Recom
X				

- The filter appears serviceable. No concerns were noted. Client is encouraged to change the filter regularly. Regular filter changing helps to maintain clean HVAC equipment, cleaner air ducts, and reduced dirt and dust inside the home. Consider using good quality filters. Good filter choices include a pleated filter or larger media filter that provides more surface area for improved air cleaning. Look for filters with a higher micro-particle performance rating (800 and up), and a higher MERV rating (Minimum Efficiency Reporting Value 8 to 10 and up).
- POSITIVE FEATURE!

This HVAC system has an improved air cleaning system that consists of:

• A good quality 4" media filter that is designed to remove more impurities from the conditioned air. This type of filter is often changed every 4-6 months and is more expensive than a traditional one inch filter.



Good quality media filter present

HVAC DUCTING:

OK	Minor	Moder	Major	Recom
X		X		x

- Flexible Round HVAC ducting is present; the HVAC ducting appears serviceable, no significant concerns were noted.
- Both the first floor and the second floor are ducted off the same HVAC system which is not advised. This condition was common at the time of this home's original construction but is no longer allowed. This condition can lead to poor performance issues on both floors with the upstairs floor level noticeably warmer all year round, not enough air conditioning in the summer and too much heating in the winter. One option is to consider installation of a dual thermostat system that operates off of the single HVAC system using motorized dampers that open and close the ducts as needed for zoned temperature control on both floors. For more information, consult with a professional HVAC contractor.

RADON / MOLD / ASBESTOS / LEAD PAINT

RADON: RADON TEST RECOMMENDED: According to the Environmental Protection Agency (EPA), this home is located in one of the four (4) Georgia counties that the EPA lists as having a "High Probability" of radon gas. The EPA Georgia county map identifies Gwinnett, Cobb, DeKalb and Fulton counties as red or "High Probability". Because this home may have a higher risk of radon gas entry, further evaluation is recommended. Ask the home seller if there has been any recent radon testing of the home. If no recent radon information is available, then a current radon screening is recommended. Visit www.epa.gov/radon for more information on radon gas, radon testing and a view of the Georgia county map http://www.epa.gov/radon/zonemap.html. WE CAN HELP! Atlanta Property Inspections, Inc can conduct professional radon screening, for an additional fee. The radon screening consists of placement of a continuous radon monitor, usually in the lowest available living space such as a basement or first floor room. The radon monitor takes hourly radon readings during the 48 hour testing period, and an overall radon average will be calculated. The EPA strongly recommends that steps be taken to reduce indoor radon, with a professionally installed radon mitigation system, when test results are 4.0 pCi/L (picocuries per liter of radon in air) or higher. The average cost of a radon mitigation system is usually between \$1500 and \$2000. Client was made aware that Radon testing is available as an additional inspection service that could be provided at the time of this home inspection. Client has declined a radon test at this time. MOLD: No suspected mold or fungus was observed during this very limited visual inspection at the time of this home inspection. MOLD AND THE INSPECTION: This is a limited home inspection and is NOT A MOLD INSPECTION. We are not inspecting for mold and we are not responsible or liable for any mold that may be present in this home. We may mention visible mold as a courtesy when the suspected mold is detected during the course of our normal home inspection procedures.

For a thorough and in-depth evaluation of the possible presence of mold, we strongly advise a mold test that includes mold air testing / sampling and lab analysis of those air samples.

Glossary

Term	Definition
Expansion Tank	An expansion tank or expansion vessel is a small tank used to protect closed (not open to atmospheric pressure) water heating systems and domestic hot water systems from excessive pressure. The tank is partially filled with air, whose compressibility cushions shock caused by water hammer and absorbs excess water pressure caused by thermal expansion.
GFCI	A special device that is intended for the protection of personnel by de-energizing a circuit, capable of opening the circuit when even a small amount of current is flowing through the grounding system.