RIMROCK
ENGINEERING, INC.

GEOTECHNICAL ENGINEERING REPORT

65 Lots Meadowlark Ranch Phase 5
Meadowlark Ranch Subdivision
Belgrade, Montana

April 19, 2024
Project No. G24035

Prepared for:

Meadowlark Ranch, Inc.
175 North 27th Street, Suite 900
Billings, MT 59101

Prepared by:

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, Montana 59101

RIMROCK ENGINEERING, INC.

5440 Holiday Avenue · Billings, Montana 59101: · Phone: 406.294.8400 · www.rimrock.biz

April 19, 2024

Mr. Landy Leep
Meadowlark Ranch, Inc.
175 North 27th Street, Suite 900
Billings, MT 59101

Re: Geotechnical Engineering Report
65 Lots Meadowlark Ranch Phase 5
Meadowlark Ranch Subdivision
Belgrade, Montana

Dear Landy:

Rimrock Engineering, Inc. has completed the geotechnical engineering services for the referenced project. The attached report presents the results of our findings. Our work consisted of subsurface exploration, laboratory testing, engineering analyses, and preparation of this report.

We appreciate this opportunity to be of service to you and are prepared to provide construction materials testing services during the construction phase of the project. If you have any questions regarding this report or need additional information or services, please contact us.

Sincerely,
RIMROCK ENGINEERING, INC.

Matt Geering, P.E.
Principal/Vice President

Wade Reynolds
Principal/President

TABLE OF CONTENTS

PAGE

EXECUTIVE SUMMARY

Rimrock Engineering has completed the geotechnical engineering services for 65 Lots for the Meadowlark Ranch Phase 5 project located within Meadowlark Ranch Subdivision in Belgrade, Montana. Based on the results of our geotechnical investigation, the site can be developed for the proposed project consistent with the recommendations provided in this report. The following geotechnical conditions and considerations were identified:

- Based on materials encountered in our borings, the subsurface profile across the site generally consists of about 1 to 7 feet of medium stiff to stiff sandy lean clay soils overlying medium dense to dense sand with gravel soils. Some loose sand layers were encountered as well. Groundwater was encountered at approximately 9.5 to 13 feet below grade while drilling or for the short duration the borings were allowed to remain open.

- Sand and gravel soils were encountered at depths ranging from about 1 to 7 feet below grade. These course grained soils were encountered deeper than 5 feet on Lots 97, 98, 99, 102, and 104 of Block 3; Lot 18 of Block 7; Lots 6 and 9 of Block 8; and Lots 3, 7, and 8 of Block 11. The sand and gravel soils generally are medium dense to dense in relative density. Some loose zones were encountered as well. The overburden clayey soils are expected to be weak and highly compressible.

- We recommend supporting structures using spread footings established on reconditioned native sand and gravel soils or on granular imported structural fill or engineering fill (site sand and gravel soils placed in a controlled manner) extending to the native sand and gravels. Performance of this system is directly related to the proper treatment and re-compaction of the native soils. If granular soils are deeper than our investigation identified, additional geotechnical input will be required and alternate deep foundation options may be considered.

- Alternatively, if coarse-grained soils are deeper than 2 feet below bottom of footings, structures can be supported using a shallow spread footing foundation system bearing on a zone of geotextile-reinforced structural fill. Performance of this system is directly related to the proper treatment and re-compaction of the native soils, placement and control of geotextiles and structural fill, and good positive drainage for the life of the structures.

It should be noted that specific project details were not fully developed or included in this section. The information provided in this executive summary should be used in conjunction with the entire report for design purposes.

GEOTECHNICAL ENGINEERING REPORT

65 Lots Meadowlark Ranch Phase 5
Meadowlark Ranch Subdivision
Belgrade, Montana

1.0 INTRODUCTION AND SCOPE

1.1 Project Description

The project consists of 65 residential lots for phase 5 of Meadowlark Ranch Subdivision in Belgrade, Montana. The lots included are listed below.

Lots	Block
7, 8, 9, 10, 14, 16, 18, 24, 25, 26, 27, 28	6
2, 3, 4, 5, 6, 7, 8, 9, 10	8
1, 2, 3, 4, 5, 6, 7, 8	11
96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 126	3
1, 2, 14, 15, 16, 18	7

At this time, we have not been provided with anticipated structural loads. Based upon previous experience with similar projects, we estimate relatively light loadings for structures of this type. Therefore, we have assumed that wall loads will be less than 2 kips per lineal foot. Additionally, we estimate that floor slab loads will be less than 150 pounds per square foot. Please notify us if these assumptions are not valid so that we may re-evaluate and, if necessary, revise our geotechnical recommendations.

1.2 Purpose and Scope of Work

The purpose of this study is to evaluate the feasibility of the proposed development with respect to the observed subsurface conditions and to provide information, opinions, and geotechnical engineering recommendations relative to:

- General site, soil and groundwater conditions
- Site and subgrade preparation
- Recommended foundation type(s) and design parameters
- Estimated settlement of foundations
- Corrosivity of site soils
- General earthwork and site drainage

Our scope of services consisted of background review, site reconnaissance, field exploration, laboratory testing, engineering analyses, and preparation of this report.

2.0 INVESTIGATION

2.1 Field Exploration

The subsurface exploration consisted of drilling sixty-five (65) borings from March 6 to April 4, 2024 to approximately 15 to 21 feet below existing grades. The borings were drilled using our truck mounted drill rig equipped with solid flight and hollow stem augers. Groundwater levels were measured during drilling operations, if encountered. Upon completion of drilling and/or groundwater measurements, the borings were backfilled with drill cuttings and compacted with the equipment at hand.

Logs of the borings along with a Vicinity/Site Map are included in Appendix A. The borings were located in the field by Rimrock Engineering based on a site plan provided. Ground surface elevations were set at 100 for purposes of this investigation. The locations and elevations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

Rimrock Engineering personnel logged the soil conditions encountered in the borings. At selected intervals, samples of the subsurface materials were taken by driving split-spoon samplers, pushing Shelby tube samplers, and collecting auger cuttings. Penetration resistance measurements were obtained by driving the samplers into the subsurface materials with a 140-pound automatic hammer falling 30 inches. The penetration resistance value is a useful index in estimating the relative density, or consistency, of the materials encountered. The sample was tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification.

2.2 Laboratory Testing

The purpose of the laboratory testing is to assess the physical and engineering properties of the soil samples collected in the field to be used in our geotechnical evaluations and analyses. Laboratory testing was performed on selected soil samples to assess the following:

- Visual classification (USCS)
- Moisture content
- Sieve analysis
- Atterberg limits
- Consolidation/swell
- Water soluble sulfate, pH & resistivity

The soil descriptions presented on the boring logs are in accordance with the Unified Soil Classification System (USCS). Individual laboratory test results can be found in Appendix B at the end of this report.

3.0 SITE & SUBSURFACE CONDITIONS

3.1 Site Conditions

The project site is located north of the existing Meadowlark Ranch Subdivision in Belgrade, Montana. The site consists of existing roads and residential lots. The site generally slopes to the northwest with approximately 13 feet of elevation difference estimated across the site. The site is surrounded by residential developments and undeveloped agricultural property.

3.2 Subsurface Soil Conditions

Based on materials encountered in our borings, the subsurface profile across the site generally consists of about 1 to 7 feet of medium stiff to stiff sandy lean clay or lean clay with sand soils overlying medium dense to dense silty/clayey sand and well to poorly graded gravel soils. Some loose sand layers were encountered as well.

The clay soils had Standard Penetration Test (SPT) N-values ranging from 4 to 38 with values usually less than 10 indicating the soils are mostly medium stiff to stiff in consistency, compressible, and have relatively low shear strength. The coarse-grained soils had SPT N-values in the range of 6 to 50+ blows per foot with values usually greater than 10 which indicates the soils to be medium dense to dense in relative density, low in compressibility, and high shear strength characteristics. For a more detailed description of the subsurface conditions, please refer to the logs provided in Appendix A.

3.3 Groundwater Conditions

The borings were observed while drilling and after completion for the presence and level of groundwater. Groundwater was encountered at approximately 9.5 to 13 feet below existing grades while drilling or for the short duration the borings were allowed to remain open. These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times, or at other locations. Groundwater can be expected to fluctuate with varying seasonal and weather conditions and other factors not evident at the time of the investigation. Evaluation of the factors that affect groundwater fluctuations is beyond the scope of this report.

3.4 Laboratory Test Results

The site soils were tested for grain size distribution (sieve analysis) and Atterberg Limits. Atterberg limits are a basic measure of the critical water contents of a fine-grained soils. The clayey soils encountered in the borings generally have low to medium plasticity. Results are summarized below:

Location	Depth (ft)	USCS	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Gravel (%)	Sand (%)	Clay/Silt (%)
Blk 3-Lot 99	4.5	CL	28	16	12	4.2	39.1	56.7
Blk 3-Lot 104	7.5	GW-GM	NP	NP	NP	59.7	33.8	6.5
Blk 3-Lot 115	2.5	GP-GM	NP	NP	NP	46.9	41.2	12
Blk 3-Lot 121	2.5	CL	38	18	20	0	18.6	81.4
Blk 6-Lot 25	9	GM	NP	NP	NP	52.1	27.8	20.1
Blk 7-Lot 1	4.5	SC	33	17	16	9.8	47.1	43.1
Blk 7-Lot 15	4.5	GW-GM	NP	NP	NP	61.4	33.1	5.5
Blk 8-Lot 3	2.5	CL	29	18	11	0	35.4	64.6
Blk 8-Lot 5	4	GP-GM	NP	NP	NP	58.6	29.9	11.5
Blk 8-Lot 8	4.5	SC-SM	22	16	6	0	66.4	33.6
Blk 11-Lot 1	4.5	GP-GM	NP	NP	NP	47.8	40.8	11.4
Blk 11-Lot 2	4	SM	NP	NP	NP	26.4	37.7	35.8
Blk 11-Lot 4	4	GM	NP	NP	NP	49.6	37	13.4
Blk 11-Lot 7	2.5	CL	37	19	18	0	21.1	78.9

Samples of the lean clay soils were tested for consolidation/swell potential. The samples were allowed to consolidate under a confining pressure of 1,000 pounds per square foot (psf). Once consolidation under the surcharge load was complete, the samples were inundated with water and allowed to swell/collapse. After movement from the addition of water ceased, incremental loads were then applied to further consolidate the samples.

Consolidation/swell test results indicate that the fine-grained soils exhibit high compressibility (See Consolidation Tests in Appendix B). Results are summarized below:

Location	Depth (ft)	Material	Dry Unit Weight (pcf)	Strain @ 2,000 psf (%)	Collapse(-)/Swell(+) (%)
Blk 8-Lot 3	2.5	CL	97	2.1	-
Blk 11-Lot 7	2.5	CL	90	3.5	-

4.0 RECOMMENDATIONS

4.1 Geotechnical Concerns/Considerations

Sand and gravel soils were encountered at depths ranging from about 1 to 7 feet below grade. These course grained soils were encountered deeper than 5 feet on Lots 97, 98, 99, 102, and 104 of Block 3; Lot 18 of Block 7; Lots 6 and 9 of Block 8; and Lots 3, 7, and 8 of Block 11. The sand and gravel soils generally are medium dense to dense in relative density. Some loose zones

were encountered as well. The overburden clayey soils are expected to be weak and highly compressible

We recommend supporting structures using spread footings established on reconditioned native sand and gravel soils or on granular imported structural fill or engineering fill (site sand and gravel soils placed in a controlled manner) extending to the native sand and gravels. Performance of this system is directly related to the proper treatment and re-compaction of the native soils. If granular soils are deeper than our investigation identified, additional geotechnical input will be required and alternate deep foundation options may be considered.

Alternatively, if coarse-grained soils are deeper than 2 feet below bottom of footings, structures can be supported using a shallow spread footing foundation system bearing on a zone of geotextile-reinforced structural fill. Performance of this system is directly related to the proper treatment and re-compaction of the native soils, placement and control of geotextiles and structural fill, and good positive drainage for the life of the structures.

4.2 Earthwork

The following sections present recommendations for site and subgrade preparation and placement of fill materials on the project. Earthwork on the project should be observed and tested by Rimrock Engineering.

4.2.1 Site and Subgrade Preparation

Vegetation, topsoil, existing utilities (if present), and other unsuitable materials (e.g. debris, desiccated soil, frozen soil, etc.) should be removed from the proposed construction area. It is anticipated that general excavations for the proposed construction can be accomplished with conventional earthmoving equipment such as tractor mounted backhoes and tracked excavators.

The excavated site soils, cleaned of all organic/deleterious material, and any construction debris, may be stockpiled on-site for possible re-use. The site clay soils can be used as wall/trench backfill or for landscaping purposes. The site sand and gravel soils can be used as engineered fill beneath foundations and slabs.

In order to mitigate construction disturbance and improve uniformity of subgrade support, prior to placement of structural or engineered fill, foundations and/or slabs, subgrade soils should be scarified a minimum of 12 inches, moisture conditioned to near optimum, and compacted in accordance with Section 4.2.3. Rimrock Engineering should be contacted to observe the subgrade surface to ascertain integrity consistent with the design assumptions.

Excavations below floor slabs also should allow for placement of at least 8 inches of structural or engineered fill. Over-excavation for structural fill placement below footings to native gravels should extend laterally beyond all edges of the footings at least 8 inches per foot of over-excavation depth below footing base elevation.

If the geotextile-reinforced structural fill option is desired, excavations should allow for the placement of at least 1.5 feet of geotextile-reinforced structural fill beneath footings and 8 inches of aggregate base beneath floor slabs. Excavation for structural fill placement should extend laterally beyond all edges of the foundation at least 12 inches per foot of over-excavation depth. Underlying the structural fill, we recommend the separation/stabilization geotextile Mirafi RS380i be placed at the interface between the prepared subgrade and the structural fill zone to help stabilize the subgrade as well as keep the subgrade soils from intruding into the structural fill zone.

4.2.2 Material Requirements

It is anticipated that excavated materials will be used to the extent practical as wall and trench backfill and/or engineered fill. The material suitability should be evaluated by the geotechnical engineer prior to use. Moisture conditioning and processing of on-site soils will likely be required. Imported, structural fill, if required, should meet the criteria outlined below:

Gradation	**Percent finer by weight (ASTM C136)**
3"	100
No. 4 Sieve	30-75
No. 200 Sieve	15 (max)
Liquid Limit	25 (max)
Plasticity Index	6 (max)

4.2.3 Compaction Requirements

Fill materials should be placed and compacted in loose lift thicknesses of 8 inches or less when heavy, self-propelled compaction equipment is used. When hand-guided equipment such as jumping jack or plate compactor is used, loose lift thicknesses should be on the order of 4 to 6 inches.

The following table lists the compaction requirements for the different types of fill recommended in this report.

Item	Description
Compaction Requirement (ASTM D698)	**Structural and/or Engineered Fill (beneath footings):** 98% **Aggregate Base (beneath slabs):** 95% **Scarified Subgrade Soils:** 98 % beneath footings, 95% elsewhere **Wall/Trench Backfill:** 95%
Moisture Content (ASTM D698)	±3 % of optimum

The Contractor shall provide and use sufficient equipment of a type and weight suitable for the conditions encountered in the field. The equipment shall be capable of obtaining the required compaction in all areas, including those that are inaccessible to ordinary rolling equipment.

4.2.4 Utility Trench Backfill

All trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the structure should be effectively sealed to restrict water intrusion and flow through the trenches that could migrate beneath the structure. We recommend constructing an effective clay “trench plug” that extends at least 5 feet out from the structure. The plug material should consist of clay compacted at a water content at or above the optimum water content. The clay fill should be placed to completely surround the utility line above the bedding zone and be compacted in accordance with recommendations in this report. Plug material should conform to MPW specifications.

4.2.5 Site Drainage

Positive drainage should be provided during construction and maintained throughout the life of the proposed project. Infiltration of water into utility or foundation excavations must be prevented during construction. All grades must provide effective drainage away from the structures during and after construction. Water permitted to pond next to the structures can result in greater soil movements than those discussed in this report. Estimated movements described in this report are based on effective drainage for the life of the structures and cannot be relied upon if effective drainage is not maintained.

In areas where sidewalks or paving do not immediately adjoin the structures, we recommend that protective slopes be provided with a minimum grade of approximately 10 percent for at least 10 feet from perimeter walls. Backfill against footings, exterior walls, and in utility and sprinkler line trenches should be well compacted and free of all construction debris to reduce the possibility of moisture infiltration.

Downspouts, roof drains or scuppers should be extended and discharged beyond the backfill zone when the ground surface beneath such features is not protected by exterior slabs or paving. Sprinkler systems should not be installed within 10 feet of foundation walls. Landscaped irrigation adjacent to the foundation system should be minimized, eliminated, or regulated.

4.2.6 Construction Considerations

Although the exposed subgrade soils are anticipated to be relatively stable upon initial exposure, unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/or subjected to repetitive construction traffic. The use of light, rubber-tracked construction equipment would aid in reducing subgrade disturbance. Should unstable

subgrade conditions develop, our geotechnical engineer should review conditions and provide recommendations for stabilization.

The site should be graded to prevent ponding of surface water on, or direction of runoff toward, the prepared subgrades or excavations. If the subgrade should become frozen, desiccated, saturated, or disturbed, the affected material should be removed.

As a minimum, all temporary excavations should be sloped or braced as required by Occupational Health and Safety Administration (OSHA) regulations to provide stability and safe working conditions. The grading contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations, as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

Rimrock Engineering should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during foundation preparation, compaction of backfill, and final preparation for construction of the structures.

4.3 Foundation System

In our opinion, the proposed structures can be supported by shallow spread footing foundation system bearing on prepared native sand and gravel soils or on structural or engineered fill extending to the native sand and gravels. Alternatively, if coarse-grained soils are deeper than 2 feet below bottom of footings, structures can be supported using a shallow spread footing foundation system bearing on a zone of geotextile-reinforced (Mirafi RS380i) structural fill.

The spread footing foundation system constructed as described above, may be designed for a maximum allowable bearing pressure of 2,000 pounds per square foot (psf). The design bearing pressure applies to dead load plus design live load conditions. The design bearing pressure may be increased by one-third when considering total loads that include wind or seismic conditions. A coefficient of friction value of 0.45 can be used for footings bearing on native gravels and granular fill.

Provided the structure is properly constructed, the total movement resulting from the anticipated structural loads is estimated to be on the order of 1 inch or less. Additional foundation movements could occur if water from any source infiltrates the foundation soils; therefore, proper drainage should be provided in the final design, during construction and for the life of the project.

Exterior foundations should be embedded a minimum of 4 feet below lowest adjacent exterior finish grade for frost protection and confinement. Interior footings should be bottomed at least 12 inches below lowest adjacent finish grade for confinement. Wall foundation dimensions should satisfy the requirements listed in the latest edition of the International Building Code. Reinforcing steel requirements for foundations should be provided by the design engineer.

The base of all foundation excavations should be free of water and loose material prior to placing concrete. Concrete should be placed soon after subgrade preparation to reduce the potential for bearing surface disturbance. Should the soil bearing levels become excessively dry, disturbed, saturated, or frozen, the affected material should be removed and replaced with suitable material prior to placing concrete. It is recommended that our geotechnical engineer be retained to observe and approve the foundation materials and their preparation for compliance with our recommendations and design assumptions.

4.4 Concrete Slabs

To reduce the potential for movement related distress to concrete slabs, we recommend that floor slabs bear on reconditioned site sand and gravel soils or a minimum of 8 inches of structural or engineered fill. A leveling course, typically 4 to 6 inches of sand/gravel, should also be provided below the concrete slabs, and can be considered part of the zone of fill.

Additional floor slab design and construction recommendations are as follows:

- Positive separations and/or isolation joints should be provided between slabs and all foundations, columns or utility lines to allow independent movement (when applicable)
- Contraction joints should be provided in slabs to control the location and extent of cracking
- Floor slabs should be structurally independent of any building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between slab and foundation (when applicable)
- The use of a vapor retarder should be considered beneath concrete slabs-on-grade that will be covered with wood, tile, carpet or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer and slab contractor should refer to ACI 302 for procedures and cautions regarding the use and placement of a vapor retarder
- Floor slabs should not be constructed on frozen subgrade
- Other design and construction considerations, as outlined in Section 302.1R of the ACI Design Manual, are recommended

Exterior slabs-on-grade founded on the site soils may experience some movement due to the volume change of the near surface materials through moisture variation or freeze-thaw cycles. This movement may lead to loss of positive drainage away from the buildings and could present a tripping hazard where slab sections move independently. Potential movement could be reduced by:

- Performing regular joint-sealing maintenance
- Minimizing moisture variations in the subgrade
- Minimizing moisture introduction to slab surfaces
- Controlling moisture-density during placement
- Placing effective control joints on relatively close centers

- Using designs which allow vertical movement between the exterior features and adjoining structural elements

4.5 Corrosion Protection

A soil sample was submitted for water soluble sulfate, pH and resistivity testing. The results are summarized in the following table:

Location	Depth (ft)	Material	Soluble Sulfate Content (%)	Resistivity (ohm-cm)	pH
Blk 8, Lot 6	2.5	CL	<0.10	1,570	7.7

Water soluble sulfate values between 0.00 and 0.10 are considered to have negligible attack on normal strength concrete. As a result, Type I-II Portland cement can be specified for all project concrete. However, if additional protection in this regard is desired, Type V or other sulfate resistant cement should be specified.

Resistivity values between 1,000 and 3,000 are considered to be strongly aggressive with regard to corrosion of buried metals. If corrosion of buried metal is critical, it should be protected using a non-corrosive backfill, wrapping, coating, sacrificial anodes, or a combination of these methods, as designed by a qualified corrosion engineer.

5.0 ADDITIONAL SERVICES

The recommendations made in this report assume that an adequate program of tests and observations will be made during construction to verify compliance with these recommendations. The field observation and testing by Rimrock Engineering are an integral part of the conclusions and recommendations made in this report. If we are not retained for these services, the Client agrees to assume Rimrock Engineering's responsibility for any potential claims that may arise during construction.

6.0 LIMITATIONS

Recommendations contained in this report are based on our field explorations, laboratory tests, and our understanding of the proposed construction. The study was performed using a mutually agreed upon scope of work. It is our opinion that this study was a cost-effective method to evaluate the subject site and evaluate some of the potential geotechnical concerns. More detailed, focused, and/or thorough investigations can be conducted. Further studies will tend to increase the level of assurance; however, such efforts will result in increased costs. If the Client wishes to reduce the uncertainties beyond the level associated with this study, Rimrock Engineering should be contacted for additional consultation.

The soils data used in the preparation of this report were obtained from borings made for this investigation. It is possible that variations in soils exist between the points explored. The nature and extent of soil variations may not be evident until construction occurs. If any soil conditions are

encountered at this site which is different from those described in this report, our firm should be immediately notified so that we may make any necessary revisions to our recommendations. In addition, if the scope of the proposed project changes, our firm should be notified. This report has been prepared for design purposes for specific application to this project in accordance with the generally accepted standards of practice at the time the report was written. No warranty, express or implied, is made.

Other standards or documents referenced in any given standard cited in this report, or otherwise relied upon by the authors of this report, are only mentioned in the given standard; they are not incorporated into it or “included by reference,” as that latter term is used relative to contracts or other matters of law.

This report may be used only by the Client and for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on- and off-site), or other factors including advances in man’s understanding of applied science may change over time and could materially affect our findings. Therefore, this report should not be relied upon after 36 months from its issue. Rimrock Engineering should be notified if the project is delayed by more than 24 months from the date of this report so that a review of site conditions can be made, and recommendations revised if appropriate.

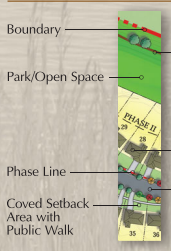
It is the Client’s responsibility to see that all parties to the project including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor’s option and risk. Any party other than the Client who wishes to use this report shall notify Rimrock Engineering of such intended use. Based on the intended use of the report, Rimrock Engineering may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Rimrock Engineering from any liability resulting from the use of this report by any unauthorized party.

APPENDIX A

Field Exploration

MASTER PLAN

LEGEND

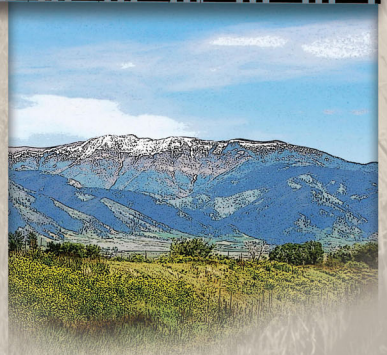


North

0 50' 100' 200'

Scale In Feet

MEADOWLARK RANCH



AN OAKLAND COMMUNITY • GALLATIN COUNTY, MONTANA

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 3-Lot 96

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	4-5-4 (9)			23				
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10		▽	SPT	100	15-15-25 (40)			4				
15			SPT	100	20-20-25 (45)			13				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 3-Lot 97

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				23				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				4				
		▽										
15			AU	100				8				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 98

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				17				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				7				
		▽										
15			AU	100				8				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 99

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	3-3-3 (6)			14				
5			SPT	100	4-3-4 (7)			13	28	16	12	57
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	8-10-17 (27)			5				
10			SPT	100	17-30-25 (55)			5				
		▽										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 100

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				3				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				4				
		▽										
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 101

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.50 ft / Elev 87.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	5-5-6 (11)			6				
10			SPT	100	15-20-20 (40)			7				
15			SPT	100	19-22-25 (47)			7				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 3-Lot 102

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				23				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				7				
		▽										
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 103

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 90.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				22				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10	▽		AU	100				10				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 104

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 9.50 ft / Elev 90.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
			SPT	100	2-2-2 (4)			13				
5			SPT	100	2-3-5 (8)			15				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
			SPT	100	20-25-19 (44)			3	NP	NP	NP	6
10	▽											
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 105

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				10				
10		▽	AU	100				3				
15			AU	100								

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 106

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				6				
10			AU	100				6				
		▽										
15			AU	100				4				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 107

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	13-12-13 (25)			17				
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel, some cobbles.	SPT	100	11-15-25 (40)			12				
			SPT	100	6-6-13 (19)			9				
10		▽	SPT	100	16-21-15 (36)			6				
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 108

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				12				
10			AU	100				5				
15			AU	100				7				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 109

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				10				
10		▽	AU	100				5				
15			AU	100				3				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 110

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	8-5-8 (13)			19				
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	16-15-18 (33)			5				
			SPT	100	12-22-20 (42)			3				
10	▽		SPT	100	20-17-15 (32)			14				
15			SPT	100	11-14-14 (28)			13				
20			SPT	100	16-22-20 (42)			10				

Bottom of borehole at 21.0 feet.

BORING NUMBER Blk 3-Lot 111

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				4				
10		▽	AU	100				4				
15			AU	100				4				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 112

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	3-4-8 (12)			3				
5			SPT	100	10-19-21 (40)			3				
			SPT	100	8-10-20 (30)			6				
10		▽	SPT	100	21-19-22 (41)			9				
15			SPT	100	30-31-42 (73)			9				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 3-Lot 113

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				4				
10		▽	AU	100				4				
15			AU	100				4				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 114

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				6				
10		▽	AU	100				6				
15			AU	100								

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 115

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	15-12-15 (27)			3	NP	NP	NP	12
5			SPT	100	10-8-17 (25)			3				
			SPT	100	18-20-22 (42)			2				
10		▽	SPT	100	22-18-20 (38)			14				
15			SPT	100	10-26-33 (59)			12				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 3-Lot 116

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				6				
10		▽	AU	100				10				
15			AU	100				6				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 117

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				7				
10		▽	AU	100				5				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 118

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	10-9-14 (23)			4				
5			SPT	100	14-26-20 (46)			4				
			SPT	100	19-16-14 (30)			4				
10	▽		SPT	100	22-20-27 (47)			11				
15		Bottom of borehole at 15.0 feet.										

BORING NUMBER Blk 3-Lot 119

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/28/24 **COMPLETED** 3/28/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				6				
10			AU	100				4				
15		▽	AU	100				6				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 120

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				6				
10		▽	AU	100				8				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 121

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Brown, stiff, medium plasticity, fine sand.	SPT	100	5-5-4 (9)			23	38	18	20	81
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	12-16-17 (33)			4				
			SPT	100	22-13-16 (29)			14				
10		▽	SPT	100	8-8-10 (18)							
15			SPT	100	10-10-11 (21)			12				
20			SPT	100	25-24-20 (44)			6				

Bottom of borehole at 21.0 feet.

BORING NUMBER Blk 3-Lot 122

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				8				
10		▽	AU	100				7				
15			AU	100				13				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 123

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			SPT	100	8-8-9 (17)			9				
10		▽	SPT	100	8-15-18 (33)			4				
15			SPT	100	10-19-20 (39)			4				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 3-Lot 124

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				6				
10			AU	100				5				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 3-Lot 126

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/27/24 **COMPLETED** 3/27/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 15.00 ft / Elev 85.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand, some gravel.	SPT	100	15-12-14 (26)			12				
5		(SM) SILTY SAND with GRAVEL Brown, loose to medium dense, coarse to fine sand, fine gravel.	SPT	100	8-5-7 (12)			7				
			SPT	100	4-3-3 (6)			9				
10			SPT	100	5-6-5 (11)			13				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
15	▽		SPT	100	15-13-17 (30)			11				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 6-Lot 7

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				17				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				8				
		▽										
15			AU	100				7				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 8

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				5				
10		▽	AU	100				6				
15			AU	100				8				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 9

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				5				
10		▽	AU	100				5				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 10

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				19				
		(SM) SILTY SAND with GRAVEL Brown, medium dense to dense, fine sand, fine gravel.										
		(GP) POORLY GRADED GRAVEL with SAND Brown, dense, coarse to fine sand, fine to course gravel.										
10			AU	100				3				
		▽										
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 14

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				14				
		(SM) SILTY SAND with GRAVEL Brown, medium dense, fine sand, fine gravel.										
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				7				
		▽										
15			AU	100				6				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 16

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.										
5		(SM) SILTY SAND with GRAVEL Brown, medium dense to dense, fine sand, fine gravel.	AU	100				14				
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10		▽	AU	100				5				
15			AU	100				12				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 18

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				8				
		(SM) SILTY SAND with GRAVEL Brown, medium dense to dense, fine sand, fine gravel.										
10		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel. ▽	AU	100				9				
15			AU	100				12				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 24

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	SPT	100	7-10-10 (20)			6				
5		(SM) SILTY SAND with GRAVEL Brown, medium dense to dense, fine sand, fine gravel.	SPT	100	12-22-20 (42)			8				
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10		▽										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 25

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	AU	100				19				
5		(SM) SILTY GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine gravel.	AU	100				8				
10			AU	100				5	NP	NP	NP	20
		▽										
15			AU	100				4				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 26

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	SPT	100	5-3-7 (10)			19				
5			SPT	100	7-7-8 (15)			20				
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense, coarse to fine sand, fine to course gravel.										
		(SM) SILTY SAND with GRAVEL Brown, loose to medium dense, fine sand, fine gravel.	SPT	100	3-4-3 (7)			7				
10		▽	SPT	100	5-6-5 (11)							
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
15			SPT	100	25-20-17 (37)			12				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 6-Lot 27

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	AU	100				19				
5		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel, some cobbles.	AU	100				6				
			AU	100				4				
10		▽	AU	100				7				
15			AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 6-Lot 28

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		FILL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	SPT	100	7-7-8 (15)			14				
5			SPT	100	9-12-10 (22)			3				
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
			SPT	100	24-25-25 (50)			4				
10		▽										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 1

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	2-3-3 (6)			25				
5		(SC) CLAYEY SAND Brown, medium dense, fine sand, some coarse sand, medium plasticity, some fine gravel.	SPT	100	2-4-8 (12)			18	33	17	16	43
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	10-12-14 (26)			5				
10	▽		SPT	100	50/5"			6				
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 2

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				15				
10			AU	100				6				
15		▽	AU	100				6				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 14

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/3/24 **COMPLETED** 4/3/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				9				
10		▽	AU	100				9				
15			AU	100				11				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 15

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	12-17-18 (35)			6				
5			SPT	100	11-14-12 (26)			2	NP	NP	NP	5
			SPT	100	24-17-22 (39)			3				
10		▽										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 16

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.50 ft / Elev 87.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				7				
10			AU	100				3				
15		▽	AU	100				5				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 7-Lot 18

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 4/4/24 **COMPLETED** 4/4/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				21				
		(GW-GM) WELL-GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10		▽	AU	100				6				
15			AU	100				10				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 2

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	15-19-19 (38)			12				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	9-16-21 (37)			5				
			AU	100				3				
10		▽	SPT	100	30-33-30 (63)			6				
15			AU	100				3				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 3

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	ST	100			97	15	29	18	11	65
			AU	100				13				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
			AU	100				5				
10		▽										
			AU	100				7				
15		Bottom of borehole at 15.0 feet.										

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 8-Lot 4

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	7-16-25 (41)			14				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	27-49-17 (66)			2				
			AU	100				3				
10	▽		SPT	100	11-17-24 (41)			7				
15			AU	100				1				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 5

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		FILL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
5			AU	100				4	NP	NP	NP	11
10		▽	AU	100				7				
15			AU	100				6				

Bottom of borehole at 15.0 feet.

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 8-Lot 6

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.50 ft / Elev 89.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		FILL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	3-3-4 (7)			12				
5			SPT	100	6-5-4 (9)			7				
		(SM) SILTY SAND with GRAVELS Brown, loose to medium dense, coarse to fine sand, fine gravel.	SPT	100	4-6-6 (12)			10				
10		▽	SPT	100	7-7-7 (14)			15				
		(GP) POORLY GRADED GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 7

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 90.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				9				
10	▽		AU	100				9				
15			AU	100				12				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 8

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		FILL										
		(CL) SANDY LEAN CLAY Dark brown, medium stiff, medium plasticity, fine sand.	SPT	100	3-3-3 (6)			13				
5		(SC-SM) SILTY, CLAYEY SAND Brown, loose, fine sand, low plasticity.	SPT	100	3-5-13 (18)			13	22	16	6	34
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	20-21-24 (45)			13				
10			AU	100				12				
	▽											
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 9

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 10.00 ft / Elev 90.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				21				
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10	▽		AU	100				7				
15			AU	100				3				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 8-Lot 10

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/6/24 **COMPLETED** 3/6/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	3-3-4 (7)			15				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	26-22-23 (45)			3				
			AU	100				3				
10		▽	AU	100				5				
15			AU	100				13				

Bottom of borehole at 15.0 feet.

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 11-Lot 1

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	3-4-5 (9)			5				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	6-8-7 (15)			4	NP	NP	NP	11
			SPT	100	17-18-19 (37)			10				
10		▽	AU	100				13				
15			SPT	100	9-36-27 (63)			8				

Bottom of borehole at 16.0 feet.

BORING NUMBER Blk 11-Lot 2

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.00 ft / Elev 89.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(SM) SILTY SAND with GRAVEL Brown, medium dense to dense, coarse to fine sand, fine gravel.	AU	100				8	NP	NP	NP	36
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				7				
		▽										
15			AU	100				9				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 11-Lot 3

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	6-6-5 (11)			5				
5			SPT	100	7-8-9 (17)			5				
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
			SPT	100	50/5"			4				
10		▽										
15												

Bottom of borehole at 15.0 feet.

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 11-Lot 4

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(GM) SILTY GRAVEL with SAND Brown, medium dense to dense, coarse to fine sand, fine gravel, some course gravel.										
5			AU	100				5	NP	NP	NP	13
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10			AU	100				4				
		▽										
15			AU	100				8				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 11-Lot 5

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 13.00 ft / Elev 87.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.	SPT	100	6-8-10 (18)			4				
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	11-16-20 (36)			3				
			SPT	100	30-29-25 (54)			3				
10		▽	AU	100				3				
15			AU	100				4				

Bottom of borehole at 15.0 feet.

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

BORING NUMBER Blk 11-Lot 6

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	AU	100				13				
10		▽	AU	100				7				
15			AU	100				8				

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 11-Lot 7

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 12.00 ft / Elev 88.00 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) LEAN CLAY with SAND Dark brown, stiff, medium plasticity, fine sand.	ST	100			90	21	37	19	18	79
5			SPT	100	8-11-16 (27)			6				
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.	SPT	100	13-17-27 (44)			3				
10			AU	100				4				
		▽										
15												

Bottom of borehole at 15.0 feet.

BORING NUMBER Blk 11-Lot 8

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT
DATE STARTED 3/7/24 **COMPLETED** 3/7/24
GROUND ELEVATION 100 ft **HOLE SIZE** 5 inches
DRILLING CONTRACTOR Rimrock Engineering, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
▽ **AT TIME OF DRILLING** 11.50 ft / Elev 88.50 ft
LOGGED BY T.F. **CHECKED BY** M.G.
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0		TOPSOIL										
		(CL) SANDY LEAN CLAY Dark brown, stiff, medium plasticity, fine sand.										
5			AU	100				6				
		(GP-GM) POORLY GRADED GRAVEL with SILT and SAND Brown, medium dense to dense, coarse to fine sand, fine to course gravel.										
10		▽	AU	100				6				
15			AU	100				3				

Bottom of borehole at 15.0 feet.

KEY TO SYMBOLS

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc.
PROJECT NAME Meadowlark Ranch 65 Lots
PROJECT NUMBER G24035
PROJECT LOCATION Belgrade, MT

LITHOLOGIC SYMBOLS
(Unified Soil Classification System)


CL: USCS Low Plasticity Clay


CLS: USCS Low Plasticity Sandy Clay


FILL: Fill (made ground)


GM: USCS Silty Gravel


GP: USCS Poorly-graded Gravel


GP-GM: USCS Poorly-graded Gravel with Silt


GW-GM: USCS Well-graded Gravel with Silt


SC: USCS Clayey Sand


SC-SM: USCS Clayey Sand


SM: USCS Silty Sand


TOPSOIL: Topsoil

SAMPLER SYMBOLS


Auger Cuttings


Standard Penetration Test


Shelby Tube

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION
Water Level at Time Drilling, or as Shown
Water Level at End of Drilling, or as Shown
Water Level After 24 Hours, or as Shown

APPENDIX B

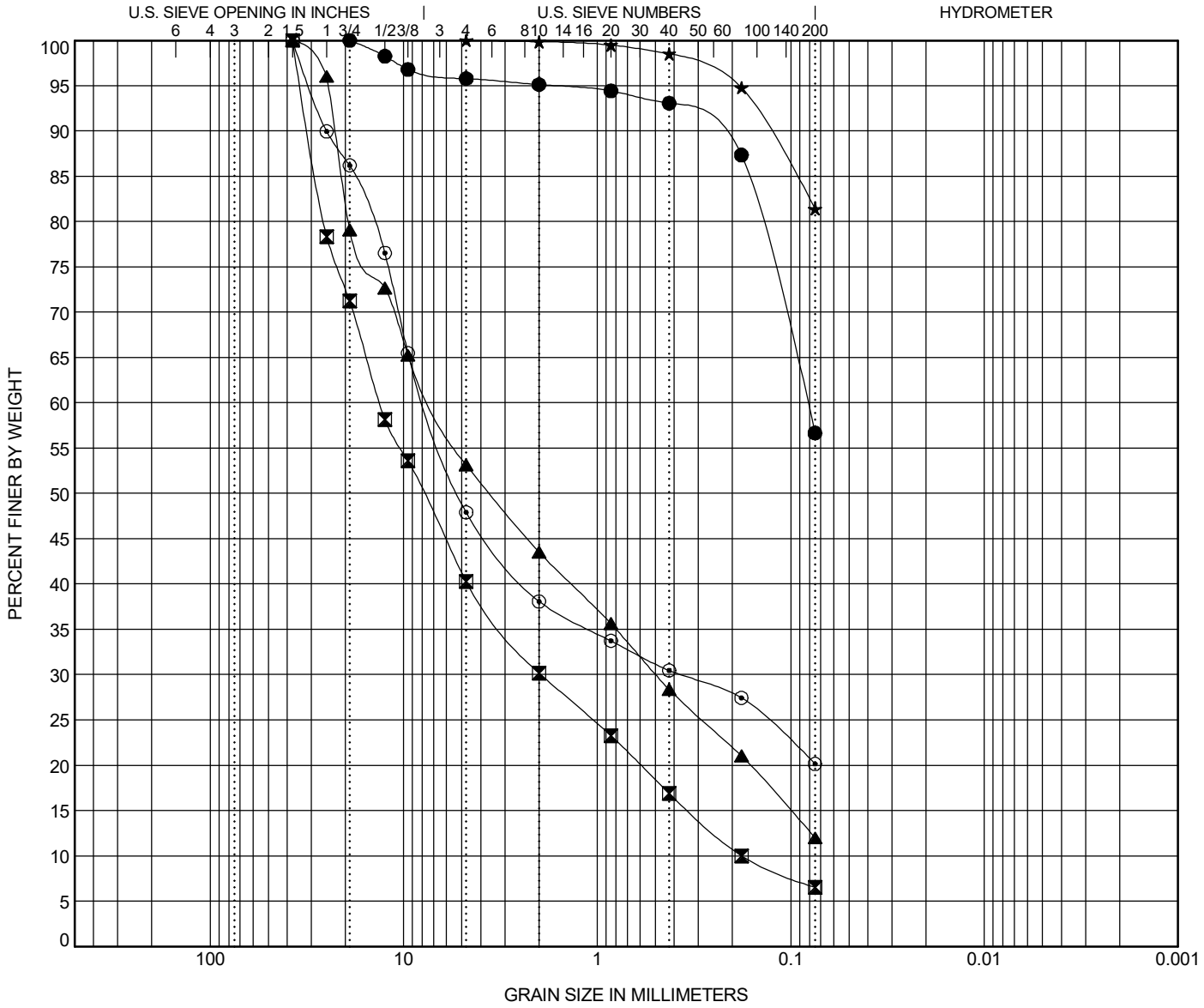
Laboratory Test Results

GRAIN SIZE DISTRIBUTION

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc. **PROJECT NAME** Meadowlark Ranch 65 Lots

PROJECT NUMBER G24035 **PROJECT LOCATION** Belgrade, MT



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	Blk 3-Lot 99	4.5	SANDY LEAN CLAY(CL)	28	16	12		
⊠	Blk 3-Lot 104	7.5	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	NP	NP	NP	1.61	73.65
▲	Blk 3-Lot 115	2.5	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)	NP	NP	NP	0.57	113.47
★	Blk 3-Lot 121	2.5	LEAN CLAY with SAND(CL)	38	18	20		
⊙	Blk 6-Lot 25	9.0	SILTY GRAVEL with SAND(GM)	NP	NP	NP		

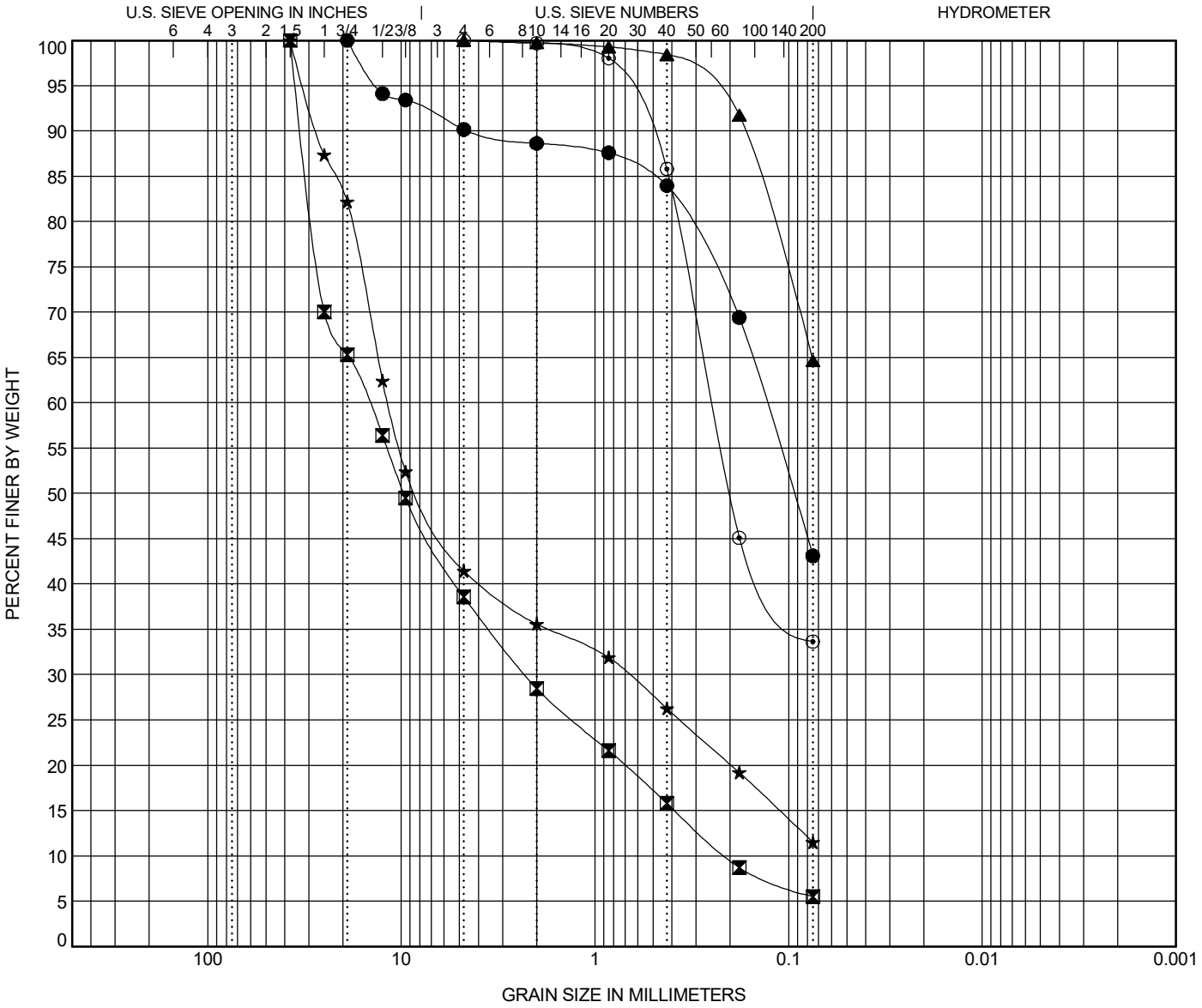
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	Blk 3-Lot 99	4.5	19	0.083			4.2	39.1	56.7	
⊠	Blk 3-Lot 104	7.5	37.5	13.265	1.96	0.18	59.7	33.8	6.5	
▲	Blk 3-Lot 115	2.5	37.5	7.036	0.497		46.9	41.2	12.0	
★	Blk 3-Lot 121	2.5	4.75				0.0	18.6	81.4	
⊙	Blk 6-Lot 25	9.0	37.5	7.654	0.374		52.1	27.8	20.1	

GRAIN SIZE DISTRIBUTION

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc. **PROJECT NAME** Meadowlark Ranch 65 Lots

PROJECT NUMBER G24035 **PROJECT LOCATION** Belgrade, MT



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	Blk 7-Lot 1	4.5	CLAYEY SAND(SC)	33	17	16		
⊠	Blk 7-Lot 15	4.5	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)	NP	NP	NP	1.67	70.10
▲	Blk 8-Lot 3	2.5	SANDY LEAN CLAY(CL)	29	18	11		
★	Blk 8-Lot 5	4.0	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)	NP	NP	NP	0.61	184.93
⊙	Blk 8-Lot 8	4.5	SILTY, CLAYEY SAND(SC-SM)	22	16	6		

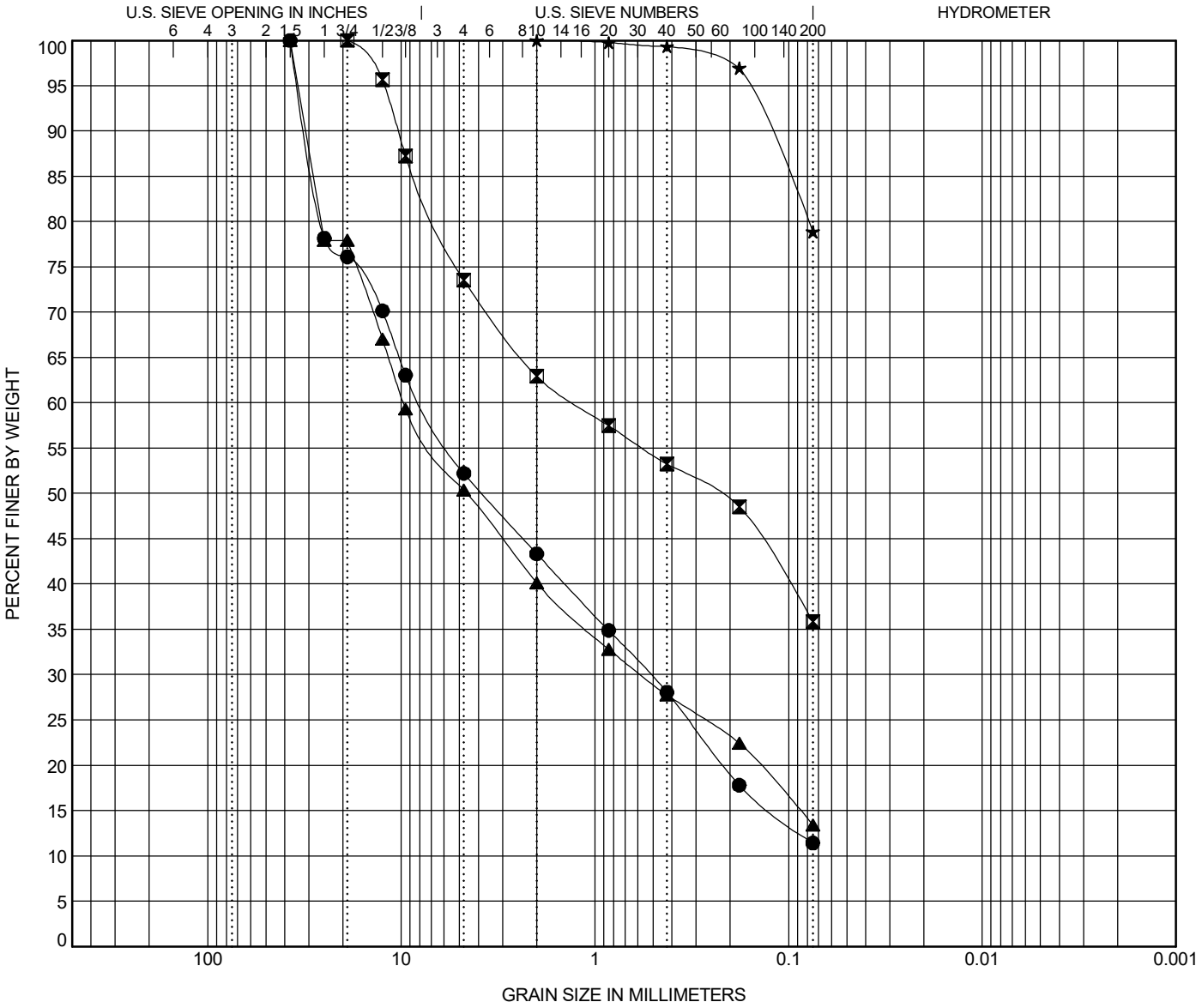
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	Blk 7-Lot 1	4.5	19	0.132			9.8	47.1	43.1	
⊠	Blk 7-Lot 15	4.5	37.5	14.794	2.281	0.211	61.4	33.1	5.5	
▲	Blk 8-Lot 3	2.5	4.75				0.0	35.4	64.6	
★	Blk 8-Lot 5	4.0	37.5	11.694	0.673		58.6	29.9	11.5	
⊙	Blk 8-Lot 8	4.5	4.75	0.247			0.0	66.4	33.6	

GRAIN SIZE DISTRIBUTION

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

CLIENT Meadowlark Ranch Inc. **PROJECT NAME** Meadowlark Ranch 65 Lots

PROJECT NUMBER G24035 **PROJECT LOCATION** Belgrade, MT



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**Blk 11-Lot 1**	**4.5**	**POORLY GRADED GRAVEL with SILT and SAND(GP-GM)**	**NP**	**NP**	**NP**	**0.55**	**126.44**
⊠	**Blk 11-Lot 2**	**4.0**	**SILTY SAND with GRAVEL(SM)**	**NP**	**NP**	**NP**		
▲	**Blk 11-Lot 4**	**4.0**	**SILTY GRAVEL with SAND(GM)**	**NP**	**NP**	**NP**		
★	**Blk 11-Lot 7**	**2.5**	**LEAN CLAY with SAND(CL)**	**37**	**19**	**18**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**Blk 11-Lot 1**	**4.5**	**37.5**	**7.818**	**0.518**		**47.8**	**40.8**	**11.4**	
⊠	**Blk 11-Lot 2**	**4.0**	**19**	**1.263**			**26.4**	**37.7**	**35.8**	
▲	**Blk 11-Lot 4**	**4.0**	**37.5**	**9.739**	**0.579**		**49.6**	**37.0**	**13.4**	
★	**Blk 11-Lot 7**	**2.5**	**2**				**0.0**	**21.1**	**78.9**	

ATTERBERG LIMITS' RESULTS

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

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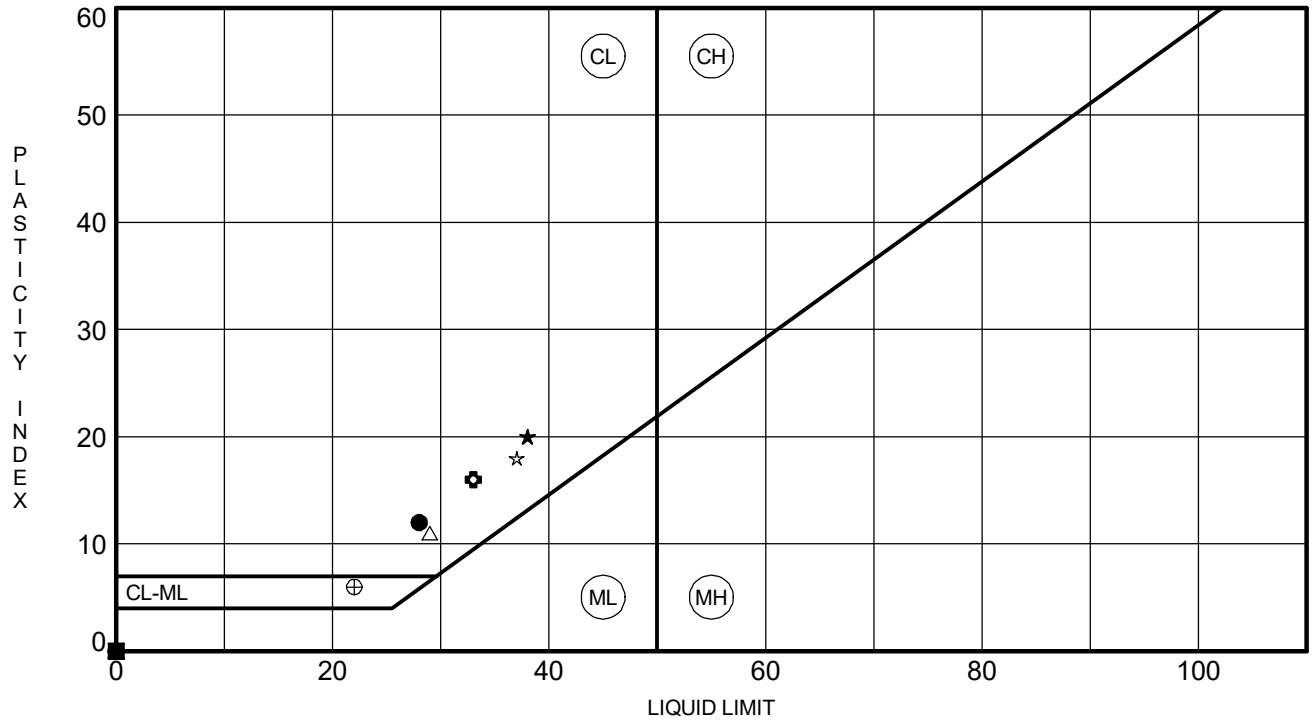

	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	Blk 3-Lot 99	4.5	28	16	12	57	SANDY LEAN CLAY(CL)
⊠	Blk 3-Lot 104	7.5	NP	NP	NP	6	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)
▲	Blk 3-Lot 115	2.5	NP	NP	NP	12	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)
★	Blk 3-Lot 121	2.5	38	18	20	81	LEAN CLAY with SAND(CL)
⊙	Blk 6-Lot 25	9.0	NP	NP	NP	20	SILTY GRAVEL with SAND(GM)
✿	Blk 7-Lot 1	4.5	33	17	16	43	CLAYEY SAND(SC)
○	Blk 7-Lot 15	4.5	NP	NP	NP	5	WELL-GRADED GRAVEL with SILT and SAND(GW-GM)
△	Blk 8-Lot 3	2.5	29	18	11	65	SANDY LEAN CLAY(CL)
⊗	Blk 8-Lot 5	4.0	NP	NP	NP	11	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)
⊕	Blk 8-Lot 8	4.5	22	16	6	34	SILTY, CLAYEY SAND(SC-SM)
□	Blk 11-Lot 1	4.5	NP	NP	NP	11	POORLY GRADED GRAVEL with SILT and SAND(GP-GM)
⊛	Blk 11-Lot 2	4.0	NP	NP	NP	36	SILTY SAND with GRAVEL(SM)
◕	Blk 11-Lot 4	4.0	NP	NP	NP	13	SILTY GRAVEL with SAND(GM)
☆	Blk 11-Lot 7	2.5	37	19	18	79	LEAN CLAY with SAND(CL)

CONSOLIDATION TEST

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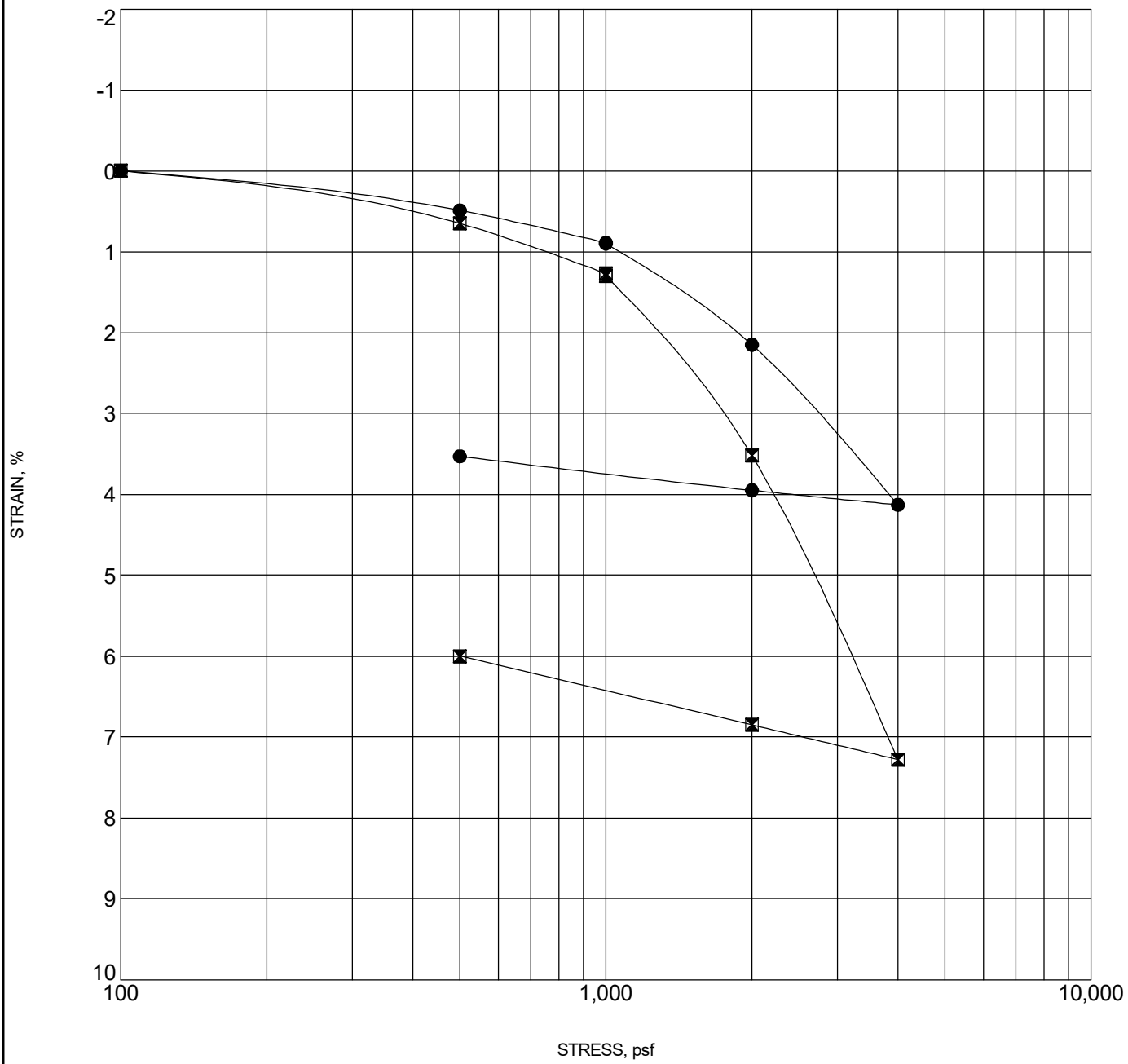

	BOREHOLE	DEPTH	Classification	γ_d	MC%
●	**Blk 8-Lot 3**	**2.5**	**SANDY LEAN CLAY(CL)**	**97**	**15**
⊠	**Blk 11-Lot 7**	**2.5**	**LEAN CLAY with SAND(CL)**	**90**	**21**