

NueVida Resources, LLC's Topsoil Protection Plan

For the
Ardourel 33081718 Pad
February 2022

Prepared for

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1 INTRODUCTION

NueVida Resources, LLC (NueVida) is providing this Topsoil Protection Plan to the Colorado Oil and Gas Conservation Commission (COGCC), Colorado Parks and Wildlife (CPW), and La Plata County Planning Department, the La Plata County Planning Commission, and the La Plata County Board of County Commissioners (collectively LPC). This plan is provided to address preservation of the topsoil that relates to the proposed Ardourel 33081718 Pad (Project) as required by COGCC Rule 304.c.(14) in accordance with Rule 1002.c. Proper management of topsoil from oil and gas locations during initial site construction is necessary to ensure topsoil is preserved for site reclamation following completion of development of the proposed wells and to ensure adequate organic material for re-establishment of desirable vegetation at reclamation.

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2 PROPOSED DISTURBANCE

NueVida plans to drill eight (8) wells on its leasehold, within La Plata County, to the Mancos Formation utilizing horizontal drilling technologies. To accommodate these wells, NueVida is proposing a multi-well gas location (well pad), access roads, pipeline, Ardourel tank pad TUA, and temporary pump pad on private land owned by the Ardourel Trust. Access to the location would be from an existing two-track road which begins off County Road 318 and travels northward, parallel to the proposed well pad, Ardourel tank pad TUA and temporary pump pad. Two short access roads onto and off of the well pad and the Ardourel tank pad TUA would be constructed to accommodate pass through traffic for both pads. NueVida would install an 8" HDPE (High Density Polyethylene) water pipeline from the northwestern corner of the well pad continuing north for 3,901.6 feet to an above ground header system where three different gathering companies in the area can tie to. Initially, NueVida plans to drill two (2) wells the first year for testing purposes. Based on results, the remaining six (6) wells may be drilled for a total of eight (8) wells.

Long-term operational equipment on the well pad would be two (2) 400-barrel steel water tanks, two (2) 2-phase vertical indirect heated vessels, one (1) dehydrator skid, one (1) small vertical fuel gas separator, and one (1) enclosed combustor. The temporary Ardourel tank pad TUA would have approximately fifteen (15) 40,000-barrel tanks and four (4) 20,000-barrel tanks. NueVida will bring in electricity to the well pad for use in its production facilities/operations. La Plata Electric Association (LPEA) has high voltage electricity available at the El Paso Compressor Station, located in the SE/SE of Section 13, Township 33 North, Range 9 West, N.M.P.M. There is currently a low voltage, 2-phase overhead line that runs west to east (approximately 380 feet) from the El Paso Station into the SW/SW of Section 18, Township 33 North, Range 8 West, N.M.P.M. This overhead line terminates and is located approximately 400 feet, north of County Road 318, along the lease access road to the well pad. LPEA will upgrade this 400-foot line to a higher voltage (TBD) 3-phase line. From this end point, LPEA will install

approximately 1,670 feet of new high voltage, 3-phase overhead line to the NW end of the well pad. This new power line will run north paralleling the lease access road within existing ROW. LPEA will set an electric meter and supply 480 v, 3-phase service at the NW corner of the well pad. NueVida will set an electric panel from which it will run the electric supply to the various production units, motors/pumps and air supply.

Construction of the well pad, Ardourel tank pad TUA, and installation of the water storage tanks will take approximately 58 days to complete. Once drilling operations begin, drilling for the two wells would take approximately forty (40) days. The drilling rig would then be removed, and a two-week period would begin for preparation to complete the wells. Once completion operations begin, it will take approximately thirty (30) days to complete. After completion, the tanks on the Ardourel tank pad TUA would be removed, however the Ardourel tank pad TUA will remain in place while testing of the wells takes place to determine additional wells that may be drilled. The Ardourel tank pad TUA will be reseeded, along with the use of tackifiers and/or erosion blankets after the removal of the tanks to stabilize the soils from potential erosion until a vegetative cover is reestablished.

The 34.51 acres of project disturbance is comprised of 29.61 acres of permitted area, 4.31 acres of pipeline ROW, and 0.59 acre of existing graveled and two-track roads. The 29.61-acre permitted area would include a 6.54-acre level pad area for the well facilities and an additional 14.34-acre leveled pad for the Ardourel tank pad TUA, 0.09 acre of new access roads, 0.42-acre temporary pump pad, 2.73 acres for TUA topsoil storage, and 5.09 acres of area that could be utilized for storm water management areas. The total 4.41 acres of pipelines will be both within the permitted area (0.1 acre) and on 4.31 acres of right-of-way (ROW) outside of the permitted area. The associated cut and fill slopes, additional room to implement necessary mitigations and Best Management Practices (BMP), soil storage, and Ardourel tank pad TUA are included in the overall surface disturbance. There are existing graveled and two-track access roads that total 0.89 acres of disturbance that will be utilized. The well pad and all access roads will be graveled and maintained for the pre-production phases of the Project. After drilling and completion phases are finalized, the Ardourel tank pad TUA, its associated access roads, and a portion of the well pad will be fully reclaimed (approximately 25.31 acres) for the production phase of the Project. Approximately 2.90 acres of the well pad will be leveled and reseeded only, leaving a total of 1.40 acres of long-term disturbance to remain as a graveled surface on the well pad and its associated access roads (see Table 2-1). The existing access road does provide access to an existing well pad location and will continue to be utilized by both NueVida and the existing well pad operator for the life of both wells.

Table 2-1. Project Disturbance Estimates for the Proposed Ardourel 33081718 Pad

Permitted Area Surface Disturbance (acres)					
Feature	Total Disturbance	New Disturbance	Fully Reclaimed	Reseeded Only	Long-term Disturbance
Well Pad	6.54	6.54	2.61	2.90	1.03
Tank Pad TUA	14.34	14.34	14.34*	-	-
Pump Pad	0.42	0.42	0.42*	-	-
Pipeline Corridor	0.1	0.1	0.1	-	-
New Access Roads for Well Pad	0.07	0.07	-	-	0.07
New Access Roads for Tank Pad TUA	0.02	0.02	0.02*	-	-
Existing Access Roads	0.3	-	-	-	0.3
TUA (Topsoil Storage for Well Pad)	1.55	1.55	1.55	-	-
TUA (Topsoil Storage for Ardourel Tank Pad TUA)	1.18	1.18	1.18*	-	-
Permitted Area for Stormwater BMPs	5.09	5.09	5.09	-	-
Permitted Area Disturbance Total:	29.61	29.31	25.31	2.90	1.40
Outside Permitted Area Surface Disturbance (acres)					
Pipeline Corridor	4.31	-	4.31	-	-
Existing Access Roads	0.59	-	-	-	0.59
Outside Permitted Area Disturbance Total:	4.9	-	4.31	-	0.59
Overall Disturbance Total:	34.51	29.31	29.62	2.90	1.99

* Blue text indicates temporary disturbance that may remain for up to 5 years, all other temporary disturbance will be reclaimed no later than 2 years from the start of construction.

3 SITE PREPARATION AND STABILIZATION

Prior to separation and storage of the topsoil horizon or top six (6) inches of soil from the proposed project, woody vegetation will be mulched, and stormwater control measures will be properly installed to

control erosion and sedimentation during precipitation events. (NueVida's Stormwater Management Plan includes further detail on stormwater control measures planned for use) When separating the soil horizons, NueVida will segregate the horizons based upon noted changes in physical characteristics such as organic content, color, texture, density, or consistency. To the extent feasible, stockpiled soils will be protected from degradation due to contamination or compaction and from wind and water erosion during drilling and production operations using surface roughening, temporary seeding and mulching, erosion control blankets, or soil binders. Best management practices to prevent weed establishment and to maintain soil microbial activity will be implemented.

3.1 Well Pad

During construction of the proposed well pad, NueVida's excavation contractor will strip the topsoil horizon. Topsoil will be stripped to a depth no less than six inches (6") and stockpiled east, north, and south of the proposed pad location. Topsoil will be segregated from all other subsurface materials disturbed during well pad construction, and no topsoil will be used for building the location nor will any topsoil be left in place and covered by subsoil in a cut and fill situation. To control sedimentation, wattles will be properly installed around the base of topsoil stockpiles. Signs will be properly posted to identify topsoil stockpiles. Upon completion of well pad construction, the approved seed mix and mulch will be applied to topsoil stockpiles to stabilize the soil and promote desirable plant growth until interim reclamation can be completed. There will be 6,525.86 cubic yards of topsoil from the well pad stored during construction and drilling.

When drilling and completion operations and recontouring of the site (as described in NueVida's Surface Reclamation Plan) are complete, topsoil will be moved from the stockpile area and placed over the pad's cut and fill slopes. Following the uniform placement of topsoil over cut and fill slopes, mulch and the approved seed mix will be applied to stabilize soils and to promote the growth of desirable vegetation.

3.2 Ardourel Tank Pad TUA

During construction of the proposed Ardourel tank pad TUA, NueVida's excavation contractor will strip the topsoil horizon. Topsoil will be stripped to a depth no less than six inches (6") and stockpiled east and south of the proposed pad location. Topsoil will be segregated from all other subsurface materials disturbed during pad construction, and no topsoil will be used for building the location nor will be left in place and covered by subsoil in a cut and fill situation. To control sedimentation, wattles will be properly installed around the base of topsoil stockpiles. Signs will be properly posted to identify topsoil stockpiles. Upon completion of Ardourel tank pad TUA construction, the approved seed mix and mulch will be applied to topsoil stockpiles to stabilize the soil and promote desirable plant growth until interim reclamation can be completed. There will be 12,842.08 cubic yards of topsoil from the tank TUA stored during construction and drilling.

When drilling and completion operations and recontouring of the site (as described in NueVida's Surface Reclamation Plan) are complete, topsoil will be moved from the stockpile area and placed over the pad's cut and fill slopes. Following the uniform placement of topsoil over cut and fill slopes, mulch and the approved seed mix will be applied to stabilize soils and to promote the growth of desirable vegetation.

3.3 Access Roads

During construction of the proposed access road, NueVida's excavation contractor will strip the topsoil horizon. Topsoil will be stripped to a depth no less than six inches (6") and segregated from all other subsurface materials disturbed during construction, and no topsoil will be used for building the road nor

will any topsoil be left in place and covered by subsoil in the cut and fill sides of the access road. The approved seed mix and mulch will be applied to the topsoil spread along the sides of the access to stabilize the soil and promote desirable plant growth. There will be 72.57 cubic yards of topsoil from the access road area stored along with topsoil from the well pad during construction and then redistributed along the edges of the access road.

3.4 Pipelines

During construction of the proposed pipeline, NueVida's excavation contractor will strip the topsoil horizon. Topsoil will be stripped to a depth no less than six inches (6") and segregated from all other subsurface materials in a wind row along one side of the pipeline right of way during pipeline construction. No topsoil will be used to backfill the pipeline trench nor will any be mixed with subsoil during backfilling operations. All topsoil will be redistributed over the backfilled pipeline during final reclamation. The approved seed mix and mulch will be applied to the topsoil to stabilize the soil and promote desirable plant growth. There will be 80.67 cubic yards of topsoil from the pipeline construction area stored during construction and then redistributed in the same area during reclamation following construction.

3.5 Temporary Pump Pad

During construction of the proposed temporary pump pad, NueVida's excavation contractor will strip the topsoil horizon. Topsoil will be stripped to a depth no less than six inches (6") and stockpiled east of the proposed pad location. Topsoil will be segregated from all other subsurface materials disturbed during pad construction, and no topsoil will be used for building the pad nor will any topsoil be left in place and covered by subsoil in a cut and fill situation. To control sedimentation, wattles will be properly installed around the base of topsoil stockpiles. Signs will be properly installed to identify topsoil stockpiles. Upon completion of the temporary pump pad construction, the approved seed mix and mulch will be applied to topsoil stockpiles to stabilize the soil and to promote desirable plant growth until interim reclamation can be completed. There will be 338.8 cubic yards of topsoil from the temporary pump pad stored during construction and drilling.

When drilling, completion operations and recontouring of the site (as described in NueVida's Surface Reclamation Plan) are complete, topsoil will be moved from the stockpile area and placed over the pad's cut and fill slopes. Following the uniform placement of topsoil over cut and fill slopes, mulch and the approved seed mix will be applied to stabilize soils and to promote the growth of desirable vegetation

4 DESKTOP CLASSIFICATION OF SOIL

Soil types found within the Project disturbance include Arboles clay, 3 to 12 percent slopes; Falfa clay loam, 3 to 8 percent slopes; and Zyme clay loam, 3 to 25 percent slopes according to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (see Table 4-2). The majority of the Project would be within Arboles clay, 3 to 12 percent slopes (20.73 acres of total surface disturbance). Falfa clay loam, 3 to 8 percent slopes, would be found primarily on the well pad and pipeline areas (13.06 acres of total surface disturbance), and a small portion of the pipeline would be found within Zyme clay loam, 3 to 25 percent slopes (0.72 acre of total surface disturbance).

Falfa clay loam, 3 to 8 percent slopes is a deep, well-drained soil with slow permeability. Erosion hazard for this soil is moderate and in areas where irrigation is utilized, water erosion may need managed. Proper

vegetation growth will help maintain soil stabilization and minimize erosion from water. This soil type does have a high shrink-swell potential and a low soil strength.

Arboles clay, 3 to 12 percent slopes is also a deep, well-drained soil with a fine textured alluvium derived from shale. In most undisturbed soil areas, the surface layer will be a silty clay loam. Permeability of the Arboles clay, 3 to 12 percent slopes is slow, and it has a medium runoff potential. Erosion hazard is moderate as well, and when the soil is dry, deep wide cracks can be visible at the surface. Sagebrush is a dominant shrub in areas left as rangeland. This soil type does have a high shrink-swell potential and a low soil strength.

Zyme clay loam, 3 to 25 percent slopes consists of well drained soils that formed from residuum weathered from shale. Zyme soils are typically located on crest, side slopes, ridges, hills and base slopes. Slopes range from 3 to 25 percent. This soil is well drained and has a negligible to very high runoff potential, depending on slope, and moderately slow to slow permeability. This soil is not prime farmland. The depth to restrictive feature is six (6) to 20 inches to paralithic bedrock and greater than 80 inches to water table.

Table 4-2. Soil Types and Disturbance Estimates for the Proposed Ardourel 33081718 Pad

Soil Type	Surface Disturbance (acres)
Arboles clay, 3 to 12 percent slopes	20.73
Falfa clay loam, 3 to 8 percent slopes	13.06
Zyme clay loam, 3 to 25 percent slopes	0.72
Total:	34.51

5 TOPSOIL PITS

Soil pits have been dug on the Ardourel property in order to acquire a baseline for topsoil within the project area. Biologists Mindy Paulek, Tanner Paulek, and Grace Bryson visited the site on March 10, 2021 to dig topsoil profile pits. The topsoil pits were dug at the proposed four corners of the well pad and near the well head to get a good representation of the topsoil across the entire pad area.



Location:	Corner #1
Date:	3/10/2021
A-horizon	0-1-inch (7.5YR 3/2) Loam
B-horizon	1-12 inch (5YR 3/2) Silty clay



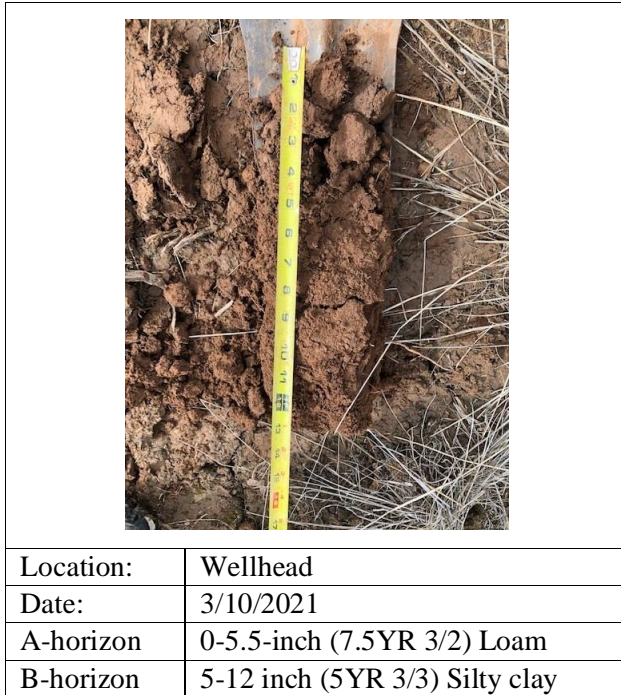
Location:	Corner #2
Date:	3/10/2021
A-horizon	0-1-inch (7.5YR 3/2) Loam
B-horizon	1-13 inch (7.5YR 3/2) Loamy clay



Location:	Corner #3
Date:	3/10/2021
A-horizon	0-1-inch (5YR 3/2) Loam
B-horizon	1-10 inch (5YR 3/3) Silty clay



Location:	Corner #4
Date:	3/10/2021
A-horizon	0-4-inch (7.5YR 3/3) Silty loam
B-horizon	4-14 inch (5YR 3/3) Silty clay



Location:	Wellhead
Date:	3/10/2021
A-horizon	0-5.5-inch (7.5YR 3/2) Loam
B-horizon	5-12 inch (5YR 3/3) Silty clay

6 SOIL PIT PROFILE DESCRIPTION

The Ardourel pad is located in a vegetative community classified as sagebrush shrubland with scattered pinon-juniper woodlands. The dominate plant species within the Project is sagebrush. Five (5) samples pit were dug on the well pad: four (4) were located within Falfa clay loam, 3 to 8 percent slope, and one (1) was located within Arboles clay, 3 to 12 percent slope. The A and B horizons were identified in the soil profiles, but there was not an O horizon. The A horizon which is considered the “topsoil” horizon is poorly defined and contains very little organic matter. The soil pits were dug from 0 to 12 inches. The depth of the A horizon did not exceed six (6) inches in any of test pits. The rooting depth varied from five (5) to seven (7) inches.

7 BMPs FOR SHORT-TERM AND LONG-TERM STABILIZATION

7.1 Short-term Stabilization

Proper stockpiling and management of the topsoil will help to preserve the chemical and biological integrity of topsoil. NueVida plans to implement the following BMPs to stabilize topsoil stockpiles in the initial phase of construction.

- The upper six (6) inches of topsoil (if available) would be stripped following vegetation and site clearing during construction of the locations. This topsoil would not be mixed with the underlying subsoil horizons and would be stockpiled as a berm along the perimeter of the pads as designated on the plats, separate from subsoil horizons or other excavated material.
- Stockpiles will be kept separate by sediment control logs, straw bale barriers, etc. The stockpile surface will be reseeded and stabilized with mulch and or erosion control blankets as necessary to control for erosion and sedimentation.

- Topsoil stockpiles will be indicated on site with signage.
- Stockpiles will be placed in areas away from vehicle and equipment traffic, and when stockpiling, compaction will be minimized by limiting the number of equipment passes, limiting stockpile height, and reseeded.
- Surface roughening, reseeded, and the use of tackifier, mulch, and/or erosion control products will be utilized to aid in protection against wind and water erosion.
- NueVida will use cultural, mechanical, biological, and chemical control to prevent the establishment of weeds as outlined in NueVida's Weed Management Plan.

7.2 Long-term Stabilization

NueVida plans to implement the following BMPs during interim reclamation to stabilize redistributed topsoil and topsoil stockpiles after construction, drilling, and completion phases are complete.

- During interim reclamation, the stockpiled topsoil and sub-surface soils would be replaced in the proper order, prior to final seedbed preparation. Once the level pad and slopes have been established, a portion of the stored topsoil would be redistributed at a depth of six (6) inches across all reseeded areas.
- The remaining topsoil will be stored as berms no greater than five (5) feet along the north, east and south side of the well pad and marked with a permanent sign for final reclamation of the well pad.
- Spreading of topsoil shall not be done when the ground or topsoil is wet.
- Vehicle/equipment traffic would not be allowed to cross topsoil stockpiles.
- If topsoil is stored for a length of time such that nutrients are depleted from the topsoil, amendments would be added to the topsoil as advised by the NueVida environmental scientist or appropriate agent/contractor.
- The seed bed will be prepared on all reseeded areas as outlined in NueVida's Surface Reclamation Plan in a way that alleviates compaction and minimizes the potential for erosion.
- Topsoiled areas will be planted with the approved seed mix agreed upon by the COGCC, CPW, and landowner (See NueVida's Surface Reclamation Plan for seed mix).
- Reseeded areas will be covered with certified weed free mulch at an application rate specified by the products manufacturer, or a specification sheet that follows good engineering practices.
- NueVida will use cultural, mechanical, biological, and chemical control to prevent the establishment of weeds as outlined in NueVida's Weed Management Plan.

8 CERTIFICATION STATEMENT

Certification Statement:

"I hereby certify that this Topsoil Protection Plan was prepared by me in accordance with the provisions of Rule 304.c.(14) of the Colorado Oil and Gas Conservation Commission (COGCC)."



Preparer's Name

12/20/2021

Date

Operator's Certification:

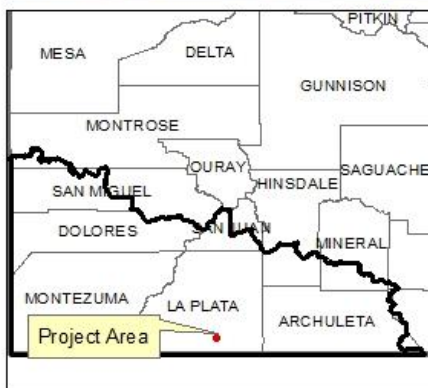
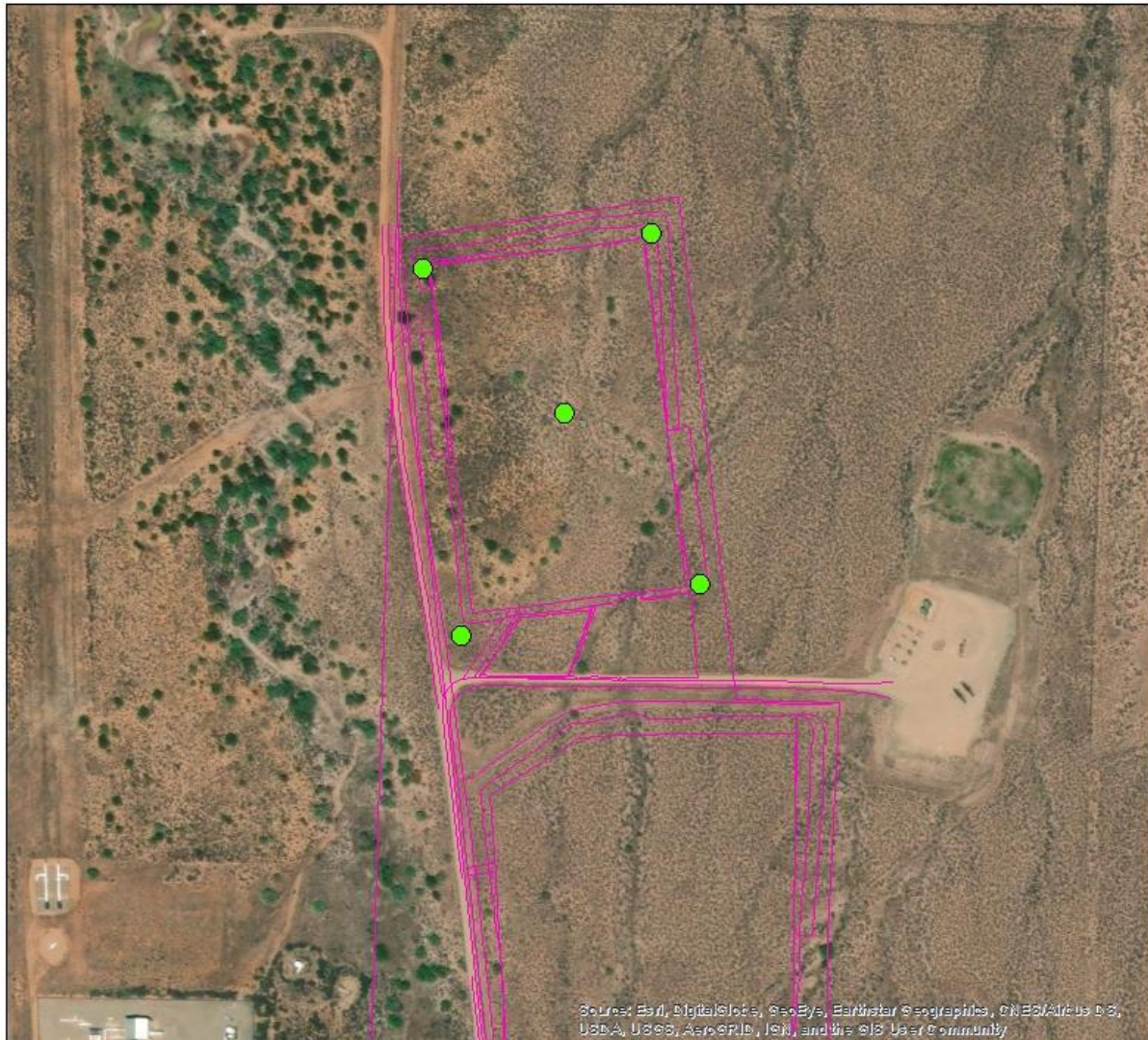
"This Topsoil Protection Plan has been submitted as part of the Oil and Gas Location Assessment (Form 2A) for the COGCC. I understand that additional erosion control, sediment control and water quality enhancing measures may be required of the operator and his or her agents due to unforeseen pollutant discharges or if the submitted plan does not function as intended. The requirements of this plan shall be the obligation of the operator and/or his successors or heirs; until such time as the plan is properly completed, modified, or voided."

Operator or Authorized Agent

Date

9 SOIL PITS

NueVida's Topsoil Pits on the Ardourel



Legend

- Topsoil Pits
- Ardourel Pad

Operator: NueVida

Contractor:



0 90 180 360 540 Feet

NAD 1983 UTM Zone 13N

Author: TP (EIS - LLC)

Date: 10/26/2021

10 MAP OF SOIL TYPES

11 NRCS SOIL DESCRIPTIONS
