

AGENDA

Montana Sage Grouse Oversight Team (MSGOT)

May 27: 1:00 p.m. – 3:00 p.m.

DNRC Headquarters Montana Room / Zoom Video Conference Meeting

1:00 – 1:15: Call to Order and Administrative Matters, Michael Freeman, MSGOT Chair

- Introductions and Video Conference Logistics
- Approve Minutes
 - February 11, 2022

1:15 – 2:15: HC Resources Waiver Request

- Presentation from HC Resources
- MSGOT Discussion and Executive Action

2:15 – 2:45: Rule Making Change for HQT Technical Manual

- Presentation from Program Staff
- MSGOT Discussion and Executive Action

2:45 – 3:00: Public Comment

3:00: Adjourn

NOTE: Agenda item times are approximate. Actual times may vary by up to one hour. Attendees who may need services or special accommodations should contact Therese Hartman (406-594-2671 or thartman@mt.gov) at least 5 working days before the meeting.



MONTANA SAGE GROUSE
Habitat Conservation Program

MINUTES
MONTANA SAGE GROUSE OVERSIGHT TEAM

February 11, 2022
Meeting Summary
DNRC Building, Montana
Conference Room and
Virtual Zoom Meeting

Members Present

Mr. Michael Freeman, Chair, Governor's Natural Resource Policy Advisor
Ms. Diane Ahlgren, Rangeland Resources Committee
Mr. Chris Dorrington, Montana Department of Environmental Quality, Director
Mr. Jim Halvorson, Montana Board of Oil and Gas, Administrator
Ms. Amanda Kaster, Montana Department of Natural Resources and Conservation (DNRC), Director
Representative Rhonda Knudsen, House District 34, by Proxy (Proxy Senator Mike Lang)
Senator Mike Lang, Senate District 17
Mr. Malcolm Long, Montana Department of Transportation, Director
Mr. Hank Worsech, Montana Department of Wildlife, Fish and Parks, Director

Staff Present

Mr. Mark Bostrom, DNRC Conservation and Resource Development Division, Administrator
Ms. Therese Hartman, Sage Grouse Habitat Conservation, Acting Program Manager
Mr. Logan Cain, Sage Grouse Habitat Conservation, Geographer
Mr. Adam Kauth, Sage Grouse Habitat Conservation, Program Reviewer
Ms. Ella Lunny, Sage Grouse Habitat Conservation, Program Reviewer
Ms. Jamie McFadden, PHD, Sage Grouse Habitat Conservation, GIS Analyst
Ms. Emily Moran, DNRC Conservation and Resource Development Division, Administrative Attachment Assistant
Ms. Erin Reather, Sage Grouse Habitat Conservation, Program Reviewer
Mr. Nate Wold, Sage Grouse Habitat Conservation, GIS Analyst

Call to Order and Administrative Matters

1:02 pm: Chairman Freeman: called the February 11th Montana Sage Grouse Oversight Team (MSGOT) meeting to order.

Chairman Freeman: introduced the Montana Sage Grouse Oversight Team members in attendance, quorum confirmed.

Senator Lang: designated proxy for Representative Knudsen for the February 11th, 2022, MSGOT meeting.

1:05 pm: Chairman Freeman: called for a motion to approve the draft September 16, 2021, MSGOT minutes.

Director Worsech motioned to approve the draft September 16th, 2021 MSGOT minutes.

Second: Ms. Ahlgren.

Voice vote conducted: voted unanimously to approve.

Discussion: None.

Motion passed.

Grant Cycle Process- Program Presentations

- 1:06 pm: Therese Hartman introduced Nate Wold, a new GIS analyst working for the Program. Two Program presentations ensued.
- 1:07 pm: Program Presentation- Overview Grant Cycle Process
Therese Hartman presented the overview of the Montana's Greater Sage-Grouse Stewardship Grant process.
- 1:17 pm: Program Presentation- Credit/Debit Summary
Jamie McFadden, GIS Analyst for the Program presented the data results of the credit and debit summaries over the past six years.
- 1:28 pm: MSGOT Discussion
Chair: Compensatory mitigation functionally means a project will be initiated and then mitigation will come after. The Program is designed to have fluctuating credits and debits.
- Currently the Program has three conservation projects still pending, only one in the central area, and the other two are in the southwest. The current pending project in the Central Service Area will not have a large impact on that area.
- It is important to note that the figures and datum included in the presentations and handouts do not include permittee responsible mitigation, only what is coming into the Stewardship Account and out in the form of Stewardship Grants have been included in these analyses.

Conservation Lease Discussion

- 1:31pm: Program Presentation- Conservation Lease Background
Mark Bostrom presented background information of Conservation Leases throughout the Program's history.
- 1:36 pm: MSGOT Discussion
Chairman Freeman and Director Worsech agreed that the Program should measure credits and debits with the same standard of three percent applied.
- Mr. Bostrom: MSGOT are the stewards of the corpus of the appropriation that was originally made to establish the mitigation system. If the Program uses the same system for credit and debit projects, it will be easy and predictable for incoming credit projects to see a projects value if the HQT and the same 3% devaluation process were to be applied; it could be a tool MSGOT can use to manage the Stewardship Account overtime.
- 1:39 pm: Ms. McFadden: Presented a graph that showed the average cost per credit by grant cycle

There are two evaluation methods: The blue bar represents the actual grant amount awarded by MSGOT. The green bar represents the average cost per credit if the 3% decrease was applied. First grant cycle did not lose any money, the subsequent two grant cycles saw a higher cost per credit compared to what the cost would have been if the 3% would have been applied.

Mr. Bostrom: In the second grant cycle the average maximum amount to balance account is higher because there was a restoration project valued at 100% of credits moved to market, as well as a conservation lease that was valued to move 100% of the credits to market. Mr. Bostrom would not recommend moving to 100% of credits to market from a conservation lease in the future; it is suggested they comply to the 40% moving to market as the permanent conservation easements adhere to. The third cycle shows loss of purchasing power due to the higher cost paid per credit.

Ms. Ahlgren: At the November 2019 MSGOT meeting, three 15-30yr leases and credits were granted, the 40% base was not applied. MSGOT had agreed that the Program would not accept any more lease options until the market value could be determined. Ms. Ahlgren would like the possibility for term easements again, it is a great way to keep family ranches afloat and continue conservation on the ground. Thanks staff for producing a viable solution to this problem, but adaptive management may be needed in the future.

Administrative Action: Authorization of 2022 Grant Cycle

1:47 pm: Ms. Ahlgren: Asked if MSGOT needed to make a motion to authorize staff to accept t lease applications again after the motion to pause leases was passed at the November 21, 2019, MSGOT meeting.

Motion passed at the November 21, 2019 MSGOT meeting:

“Director Tubbs: Assured MSGOT member there will be discussion about term leases at the next meeting. There will not be a term lease project on the agenda in the future until an MSGOT policy discussion takes place. Stated his willingness to vote on these three projects today but wants MSGOT discussion on this issue.”

Mr. Bostrom: It would be helpful to have a motion to remove the pause that MSGOT passed to capture this change in MSGOT’s administrative record. The 2019 motion was passed to table conservation leases because there was no equivalent way of evaluating conservation leases and perpetual easements. This can be solved by applying the same 3% standard to each project.

1:50 pm: Chairman Freeman called for a motion to authorize the 2022 grant cycle for a time period of 6 months.

Mr. Bostrom: Before a call for a motion, it is important to consider two things. The Stewardship account balance sits at \$5.2 million as of February 11th, 2022. MSGOT will need to vote on how much of the account the Program is authorized to use for a grant cycle, and the duration of the grant cycle.

Chairman Freeman called for discussion of the amount the Program is authorized to use for the grant cycle.

Ms. Ahlgren: What amounts have the Program been authorized to use in the past and what does the Program staff recommend?

Mr. Bostrom: \$4.1 million contribution from Clearwater which is largely the current make-up of the Stewardship account. A future MSGOT discussion may revolve around targeting that contribution back to the Central Service Area. The first grant cycle authorized \$5 million; the second grant cycle

authorized around \$3 million.

Chairman Freeman: Clarified the amount authorized does not mean that is the amount obligated.

Mr. Bostrom: Confirmed the amount authorized is not the amount obligated. He recommended MSGOT look at proposals against the 3% devaluation curve as a tool to remain solvency in the account overtime. It is also important to maintain balance in service areas overtime.

Ms. Ahlgren: Does staff have any indication of any future projects that would be included in the authorized grant cycle?

Mr. Bostrom: There are always potential projects and development in the Land Trust community. The authorization of conservation leases may attract more proposals.

Director Worsech: MSGOT has an option to move the whole balance forward or a portion of the balance. What is the benefit either way?

Mr. Bostrom: Authorizing the full Stewardship account balance is the best option; the Program's goal is to create credits where debits exist. Currently there are two service areas that are in a credit deficit, an emphasis in these areas in the 2022 grant cycle would be meaningful.

Chairman Freeman: The presentations today have shown that the Program needs to make more credits and to receive the most credits per dollar. If MSGOT authorizes the full amount, we can be selective with proposals. If all the Stewardship account balance is not spent in this current grant cycle, it can always be put towards the next grant cycle.

Ms. Ahlgren: Agreed with Chairman's and Bostrom's decisions.

Mr. Bostrom: It is important to note that the balance of the Stewardship Account constantly fluctuates due to state interest payments and new debit projects.

Director Dorrington: Suggested MSGOT should authorize a no-limit grant round to see how much MSGOT receives.

Ms. Hartman: It was established that the third grant cycle was over prescribed, in that instance, the Program and MSGOT decided to take a portion of funding off each project.

Mr. Bostrom: \$5 million a large amount, and historically MSGOT has been successful with that amount, specifically the first round was in the black.

Ms. Ahlgren: She is comfortable authorizing the full amount; MSGOT can always be selective on which projects to fund. Having a large amount of funds available allows MSGOT flexibility to fund larger projects if they are submitted.

Chairman Freeman: \$5 million allows MSGOT the largest flexibility and has the potential to attract the largest and most effective projects.

Senator Lang: He agrees MSGOT should go forward with authorizing the full fund amount. MSGOT and the Program should fund projects in core habitat first; in rule, the credits can be in one service area and used to help other adjacent service area.

Ms. Ahlgren: Previously, staff recommend against sharing across adjacent service area boundaries. If the state needs projects in central and southeast service areas, in policy MSGOT can increase the percent of credits per acre from 40% to 50%; could MSGOT implement this as an incentive for projects in these service areas?

Mr. Bostrom: The central and southeastern area which are both in credit deficits are adjacent to each other, so they cannot borrow from each other. MSGOT should emphasize projects that are within these service areas. MSGOT can list the incentive in the announcement of the opportunity if it is written in policy.

Director Dorrington: If there is a practical limit for total dollars available, MSGOT should offer the total available and have the available to be selective of funding projects.

Mr. Bostrom: A potential motion would include four parameters: MSGOT to authorize the Program the full Stewardship fund amount available, to allow conservation leases to be accepted, to open a grant cycle for six months, and to focus on projects in core habitat first.

Chairman Freeman: The motion should also include allowing MSGOT and the Program flexibility to choose projects.

Administrator Halvorson: Is there value in including the areas with the most deficits are, i.e., the central and southeastern service areas in the announcement?

Chairman Freeman and Mr. Bostrom: Both agreed it should be included in the announcement.

2:11 pm: Chairman Freeman: Opened the meeting to public comment.

Public Comment

2:11 pm: Chris King – King Ranch

2:12 pm: Brad Hansen- Montana Land Reliance

2:16 pm: Zach Winfield- DNRC Trust Lands Division

2:18 pm: Corey Baker- Westech Environmental

2:19 pm: Skip Ahlgren- Landowner and Chairman of the State Grazing Districts

2:20 pm: Glenn Marx- Director of Montana Association of Land Trusts

2:26 pm: Rebecca Boslough- Montana Association of Conservation Districts

2:27 pm: Ms. Hartman: Is appreciative of the public's interest in restoration and there are incentives in place for restoration and enhancement projects

Administrative Action: Authorization of 2022 Grant Cycle

2:28 pm: Chairman Freeman called for a motion to MSGOT

2:29 pm: Director Warsech moved MSGOT authorize the Program to initiate a new grant cycle of 6 months, allows conservation leases in the projects considered, and make full amount of stewardship account available. For conservation leases, 40% of all credits shall move to market similar to perpetual conservation easements and that MSGOT use a net present value of 3% as

the guidance value for reviewing grants

Senator Lang: Moved to divide the question into two motions. The first motion would be that MSGOT authorizes the Program to spend all the money in the Stewardship Account and to take from the table Term or Conservation Easements up to 15 years or what is mandated by Montana law. The second motion would be the second part of the first motion

2:30 pm: Chairman Freeman called for a division of the original motion.

Director Worsch moved MSGOT authorize the Program to initiate a new grant cycle of 6 months, allows conservation leases in the projects considered, and make full amount of stewardship account available.

Second: Diane Ahlgren.

Vote conducted: voted unanimously. Representative Knudsen voted by proxy, Director Long voted by proxy.

Discussion: None

Motion passes

2:31 pm: Chairman Freeman called for a second motion

Director Worsch moved for conservation leases 40% of credits shall move to market similar to perpetual conservation easements and that of the 40% moved to market MSGOT use net present value of 3% as the guidance value for reviewing grants.

Second: Diane Ahlgren.

Discussion:

Mr. Bostrom: The 3% at present value in the motion should be used as guidance. There may be cases benefit to select a project that exceeds present net value guidance because a project is in an area with credit deficit.

Vote conducted: passed unanimously. Representative Knudsen voted by proxy, Director Long voted by proxy.

Motion passes

Public Comment on Any Other Matter

2:33 pm: Chairman Freeman asked to hear public comment of any other matter.

Senator Lang: Agrees we need restoration plans. Reminder to industry that the Program needs restoration projects, A future MSGOT discussion may be about awarding credits to companies who donate restoration to the Program.

2:35 pm: Chairman Freeman moved to adjourn the meeting

Seconded: Senator Lang.

Vote Conducted: Passed Unanimously.

Meeting Adjourned at 3:35 pm.

HC Resources LLC, PO Box 20971, Billings, Montana 59104

March 15, 2022

Michael Freeman

Chairman

Montana Sage Grouse Oversight Team

Helena, Montana

RE: Request for Partial Waiver of Mitigation Fees on HC Resources Project 4519

Dear Mr. Freeman,

As per my recent communications with Therese Hartman and Ella Lunny from the Sage Grouse Program Staff, HC Resources, LLC (**HCR**) requests, under Article 3.6.1.3 of the Policy Guidance Document for the Montana Mitigation System for Greater Sage Grouse, a partial waiver of mitigation fees as calculated and determined by the Habitat Quantification Tool (HQT) for the **HCR** oil and gas project 4519 located Musselshell County, Montana. Specifically, and based on economic impact, **HCR** requests that the mitigation fees for the new two wells in the project be reduced from \$54,808 (as calculated from the most recent HQT results –Nov 16, 2021) to \$20,000. The foundation for this request has to do with the fees (as determined by the HQT model) levied on the presence of above ground powerlines (less than 35kv in size) that provide electric power to the well pumps on each well pad. In the paragraphs below, information is presented that the HCR thinks will provide justification for this request.

As a preface to the information below, the HCR has made great effort during the project planning stage in looking for ways to minimize or eliminate disturbances that are expected to impact the sage grouse habitat in the area of the project. These include: not removing ground cover for access roads to well pads, using small, low-profile hydraulic pumps in the wells instead of the more common, larger rod pump jacks with a much higher profile, reducing well pad sizes from 1 ac to 1/3 ac after the drilling phase has been completed, not placing any storage tanks or treaters on the well pads, not clearing an open area under the distribution power lines, and finally utilizing production tanks and treaters on existing well pads adjacent to the 2 well project. HCR considers this a small but important project from a local economic viewpoint. If successful it would provide long term employment for 2-3 people in Musselshell County and provide short term employment (30-60 days) for at least 20 people during the drilling and completion phases of the project. Further, if the program is successful several more wells are expected to be added to the project which would in turn add more long term jobs to the local economy.

In response to specific requested information as identified under article 3.6.1.4 of the Policy Guidance Document we present to following:

- No alternative sites for project are practicable or economically feasible due to fact that oil accumulations are located in very specific areas dictated by subsurface geologic conditions. The suspected oil accumulation is far too shallow to allow very costly slant hole drilling to access the oil accumulation from distant locations. Further, even if the cost of such an alternative was not a factor, the slant hole wells would still be located in the core habitat area.
- There is an economic need for partial relief from the compensatory mitigation obligations and their resulting costs. The cost of the total mitigation obligations (\$54,808) poses a disproportionate economic impact on the project due to the portion of the mitigation fees (estimated to be \$35,000) resulting from the proposed presences of ½ mile of overhead distribution powerlines (less than 35 kv) and their associated supporting poles. The portion of the mitigation fees associated with the presence of the above ground powerlines adds over 10% to the cost of the project. In order to avoid the mitigation obligations and their resulting fees associated with the above ground powerlines, the project would have to incur the cost of installing underground powerlines with the associated required transformers. These costs are over 4 times higher than installing above ground powerlines on poles. At present the estimated cost of installing about ½ mile of underground powerlines is in excess of \$130,000. Cost of above ground powerlines is estimated to be \$30,000. Thus, use of below ground powerlines would add over 22% to the cost to the project. Therefore in either case, the high mitigation fees (approximately \$55,000) resulting from use of above ground powerlines or the alternative of incurring the high cost of installing underground powerlines (\$130,000), has a very significant negative impact on the project's economics.

Further, it should be noted that Appendix D in the HQT Guidance Document that quantifies the impact on habitat of various sizes of Power Transmission lines states that non-nesting distribution power lines of less than 35kv may be exempt from impact considerations. This was also more narrowly stated under Exemptions in former Governor Bullock's 2015 Executive Order on sage grouse conservation.

- All available tools in the Policy Guidance have been exhausted as stated above in the preface in the preceding paragraph, except for proposing utilizing costly underground powerlines. The company can identify no further measures in coordination with the Program staff, beyond those already identified, that would further reduce project disturbance impact. An additional point in regard to the actual impact of the presence of overhead powerlines in the local area on sage grouse habit and bird behavior, is that during the spring 2021 LEK mating bird count on the two LEKs located immediately east of the project (the center of one is less than ¾ mile from the project area and the center of the other one is about 2 miles east of the project) were in excess of 100 on each LEK. One the LEK nearest to the project the bird count was 124 in 2020-21. These bird counts compare with about 25 on one of the LEKs and none on the other when last counted in year 2011-12. Importantly, on the LEK nearest the project (that counted 0 birds during mating season in 2011-12) an overhead powerline (72 kv) runs directly across the southwest 1/3 of the LEK. This would suggest that the presence of the powerline with its 16 poles within the LEK did

HC Resources LLC, PO Box 20971, Billings, Montana 59104

not negatively impact local bird populations or mating intensity in the current year. However, in order to reduce access by predator birds including crows to the 8 planned new poles in the project (over ½ mile distant to that LEK's center), HCR intends to install of Avian Deterrents – spikes- on top of the poles.

- There is capacity by the company to fulfill some portion of the mitigation obligation as a financial contribution to the Stewardship Account as specified in the opening paragraph. HCR suggests that a mitigation fee of \$20,000 toward the compensatory obligation for the project would be reasonable and manageable in view of the impact on the project economics.
- In coordination with the Program staff all relevant tools in the Policy Guidance have been considered by the company.
- Other steps in the mitigation hierarchy have been observed and incorporated into the mitigation plan, including minimization and reclamation measures as mentioned in the preface paragraph above.

Best regards,

Michael Stearns, Gen Mgr.

HC Resources, LLC

PO Box 20971

Billings, Mt 59104

281-635-9476

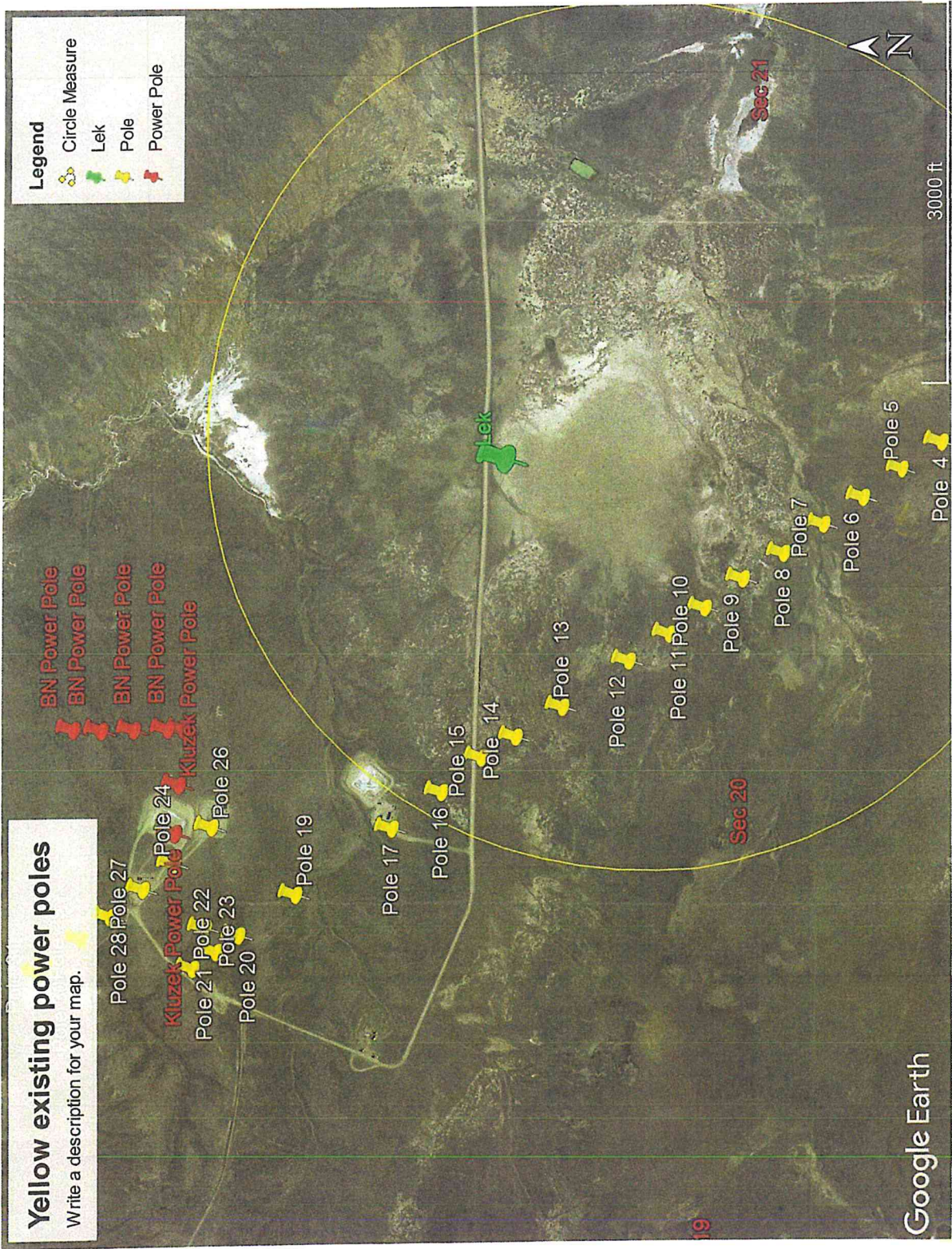
ms.hcresources@gmail.com

Yellow existing power poles

Write a description for your map.

Legend

- Circle Measure
- Lek
- Pole
- Power Pole



Red new power poles

Write a description for your map.

Burlington Northern 17-3

BN Power Pole

BN Power Pole

BN Power Pole

BN Power Pole

Kluzek Power Pole

Kluzek Power Pole

KLUZEK #3

Pole 24

Pole 27

Pole 28

Pole 21

Pole 22

Pole 23

Pole 20

Pole 19

Pole 17

Pole 16

Pole 15

Pole 14

Pole 13

Pole 12

Pole 11

Pole 10

Pole 9

Pole 8

Pole 7

Pole 6

Pole 5

Pole 4

Pole 3

Pole 2

Pole 1

Legend

Circle Measure

Lek

Pole

Power Pole

N

1000 ft

Google Earth

HC Resources, LLC and Howard Coulee LEK


Page 1	Map of LEK in Musselshell County
Page 1A	LEK
Page 2	Howard Coulee Field wells
Page 3	Power lines in Howard Coulee
Page 4	Power line south west of LEK
Page 5	Heartly # 1 location
Page 6	Kluzek #2 location
Page 7	Bailee #2 location
Page 8	Burlington Northern 41-9 location
Page 9	New Kluzek #3 location and power lines
Page 10	New Burlington Northern 17 #3 location and power lines
Page 11	Existing power lines in field
Page 12	Additional power lines in field
Page 13	Lida Kluzek #2 oil and water facility
Page 13	New well of HC Resources, LLC. Kluzek #3 pad layout
Page 14	Bird spikes on new poles
Page 15	Hydraulic pumping unit


East of Roundup and North of Musselshell, MT


Page 1

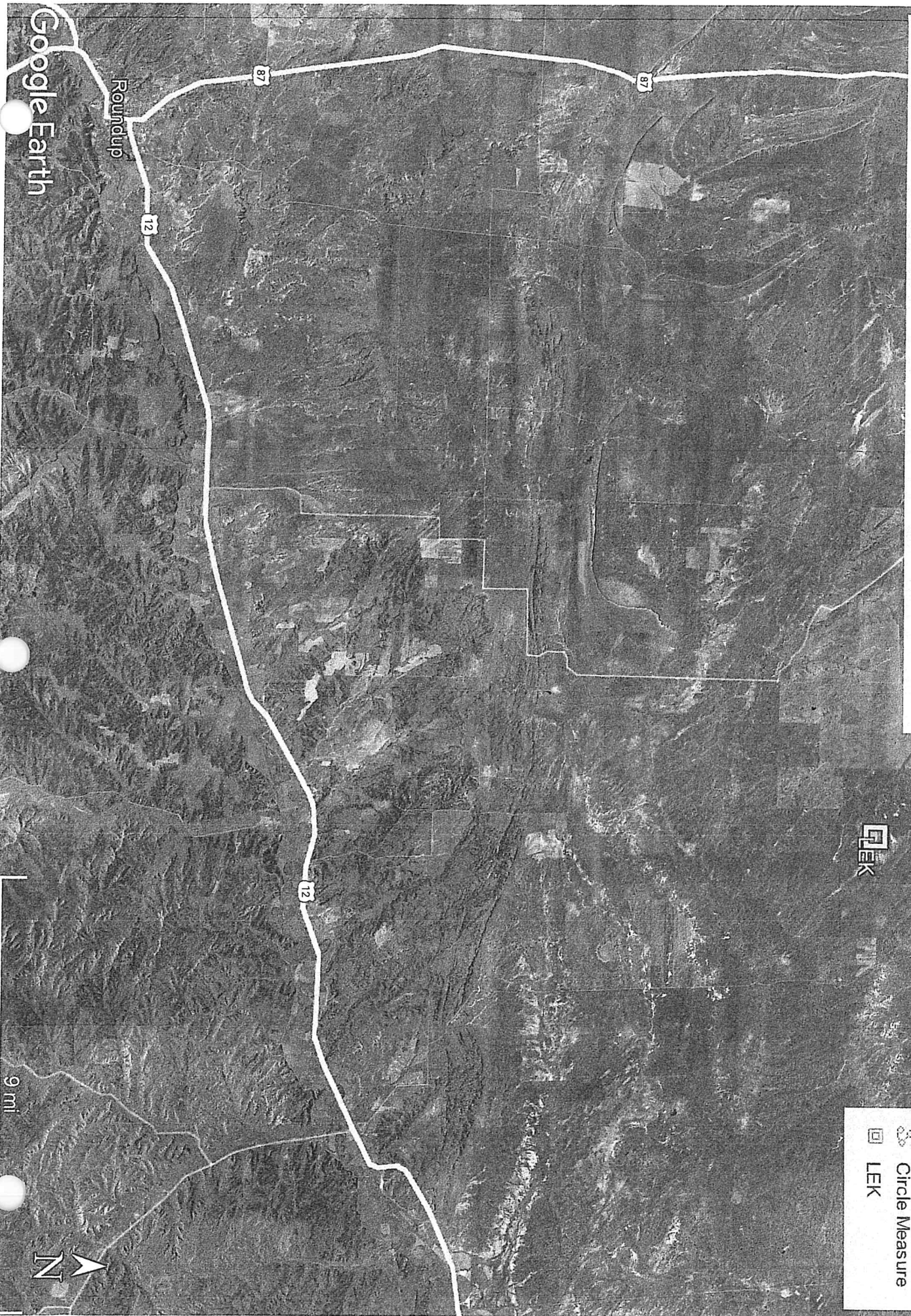


Legend

 Circle Measure

 Circle Measure

 LEK

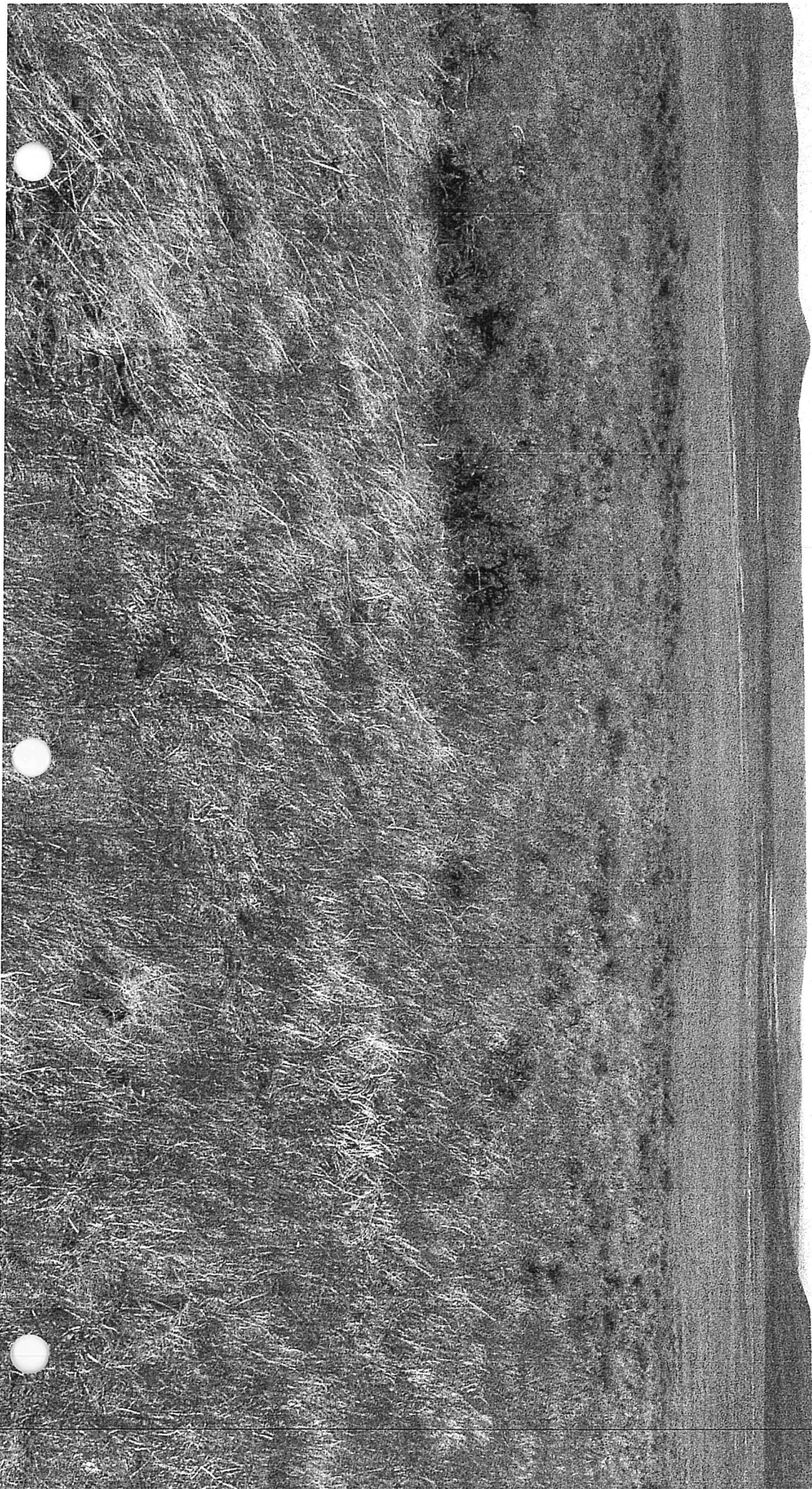


Google Earth



9 mi

PAGE 1A



Howard Coulee Field and LEK

Legend

Page 2

Big Gully Bailee #2

R & A Oil Burlington 41-9

Big Gully Kluzek #2

Howard Coulee Field

Big Gully Hearty #1

LEK



27 Power Poles near LEK

Page 3

Legend

-  LEK
-  Power

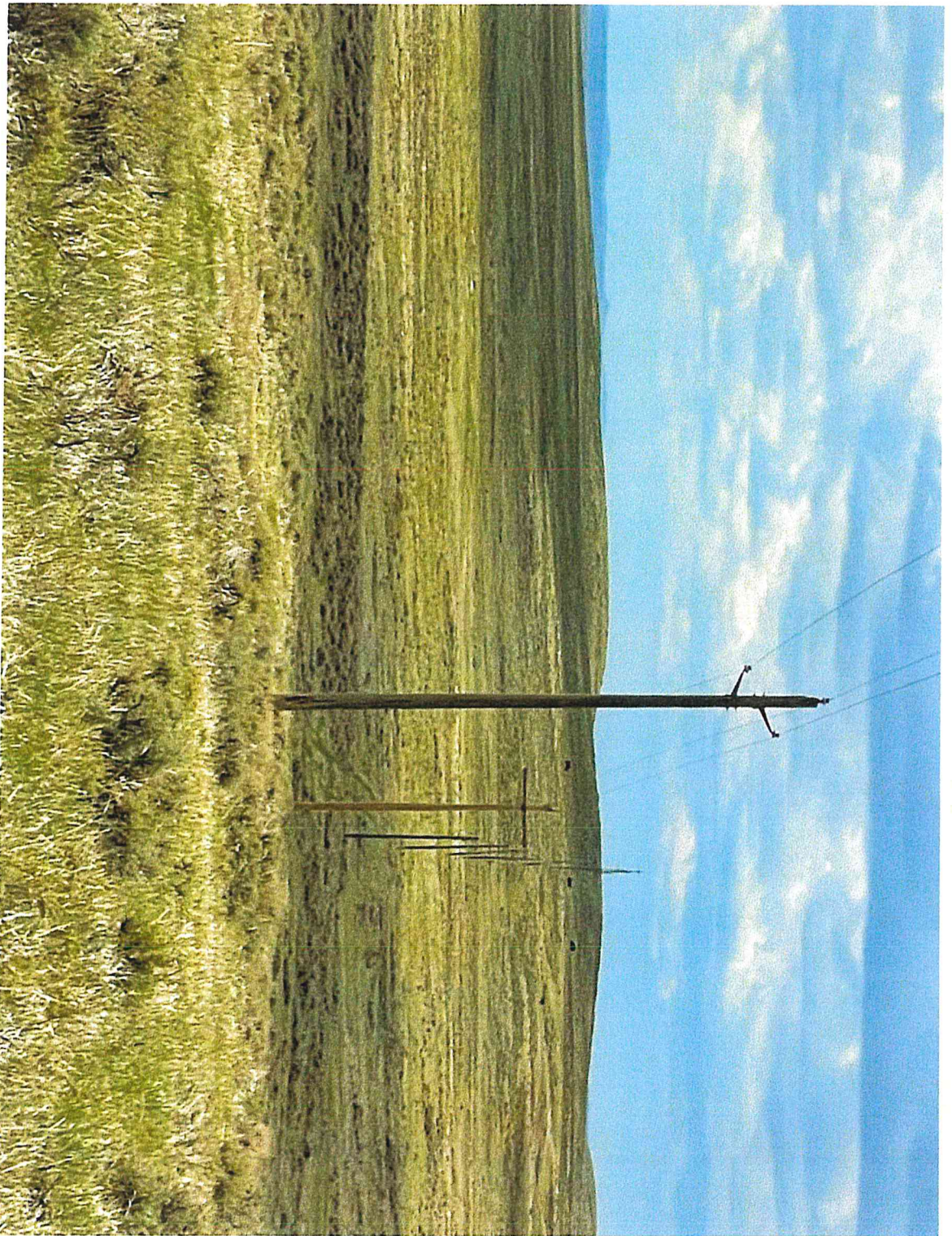
Howard Coulee Field

- Power Pole #27
- Power Pole #26
- Power Pole #24
- Power Pole #23
- Power #22
- Power Pole #18
- Power Pole #16
- Power Pole #15
- Power Pole #14
- Power Pole #13
- Power Pole #12
- Pole 11
- Pole 10
- Pole 9
- Pole 8
- Pole 7
- Pole 6
- Pole 5
- Pole 4
- Pole 3
- Pole 2
- Pole 1



4000 ft





Existing power line south of access road (looking south by south east) in the SWSW Section 20 & 29, T11N-R28E.

Hearty #1

Page 5

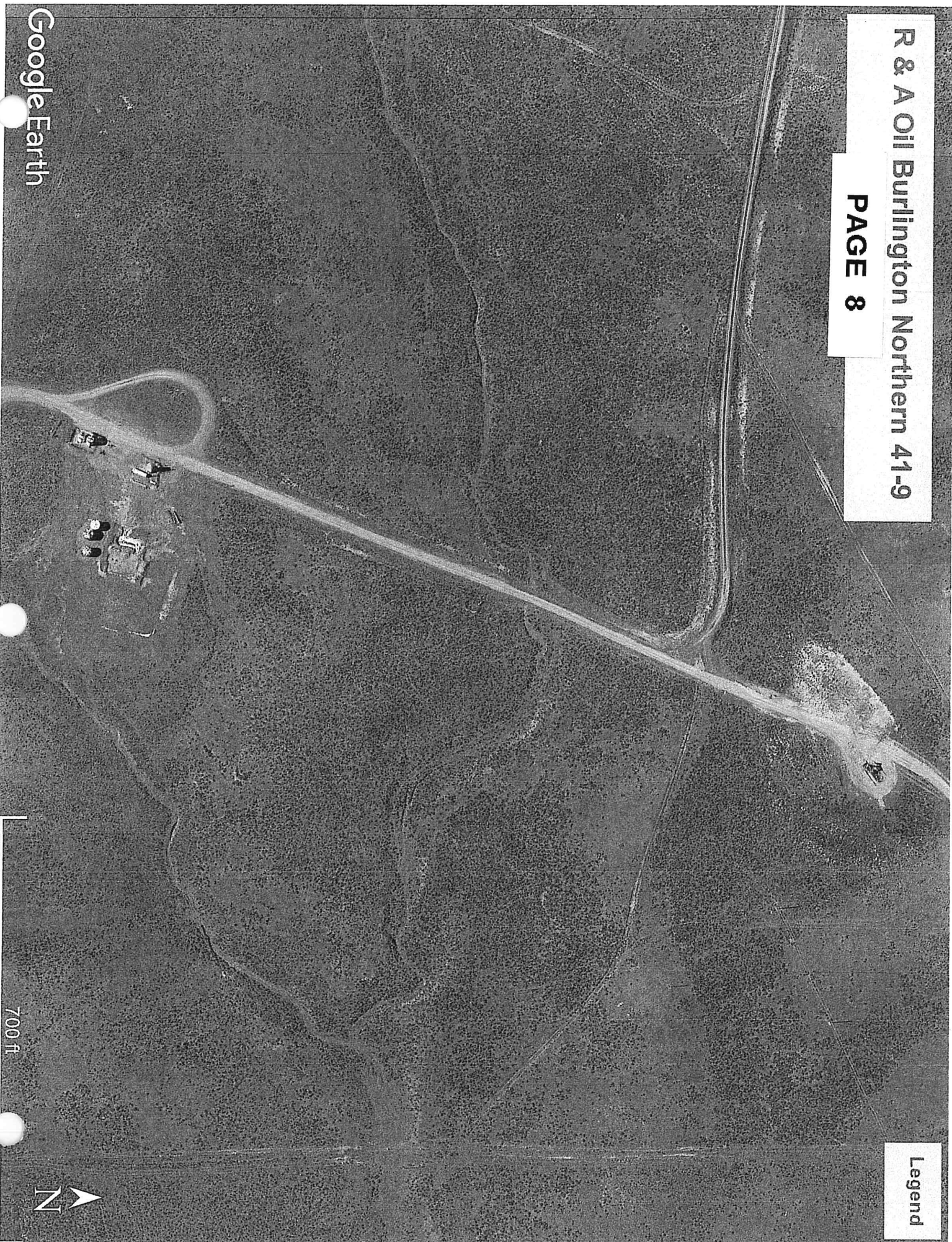
Legend



Kluzek #2
Page 6



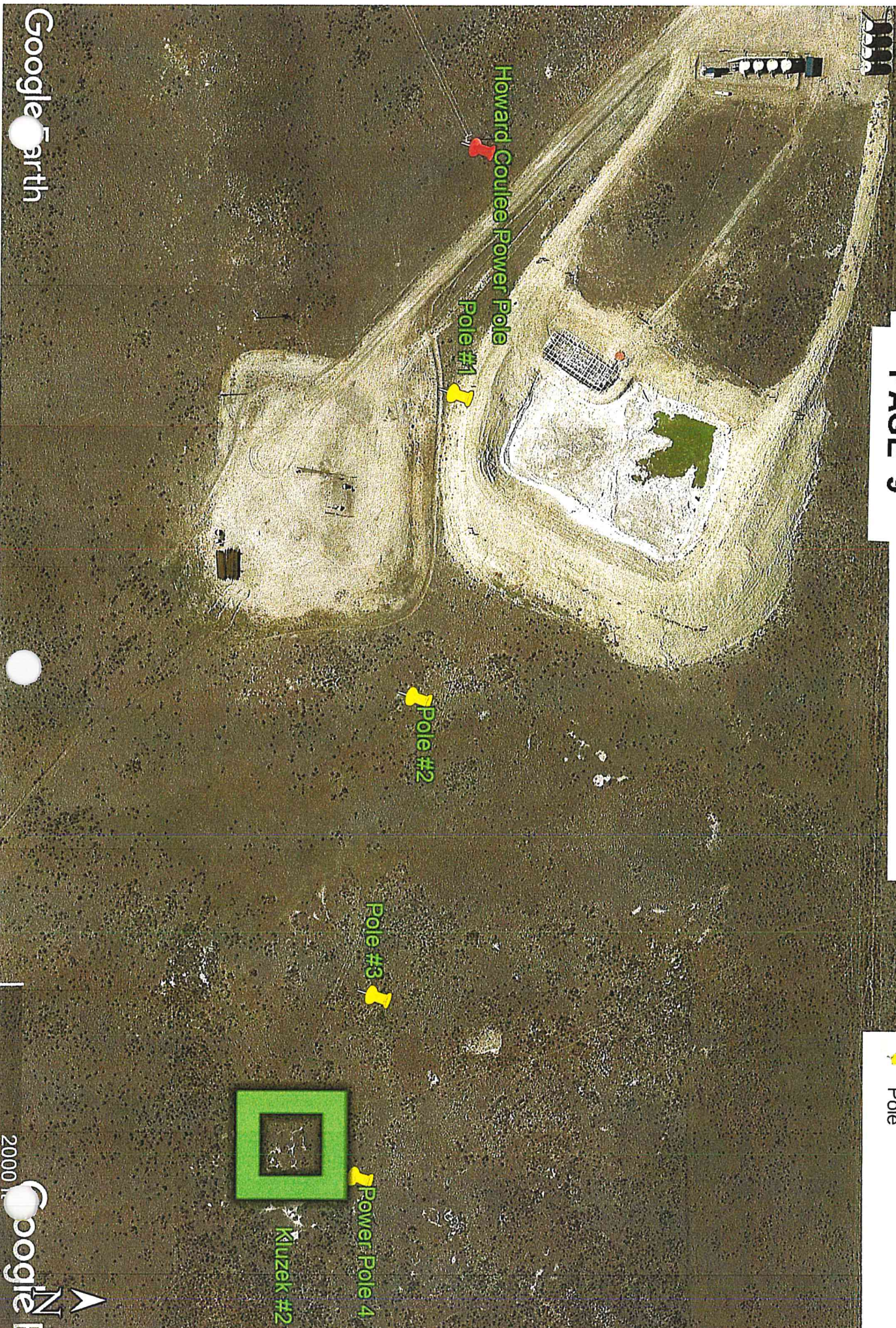




Kluzek #3 location and Power poles

PAGE 9

- Legend**
- Howard Coulee Power Pole
 - Kluzek #2
 - Pole



Burlington Northern 17 #3

Page 10

Legend



Burlington Northern 17 #3

Power Pole #8

Power Pole #7

Power Pole #6

Power Pole #5

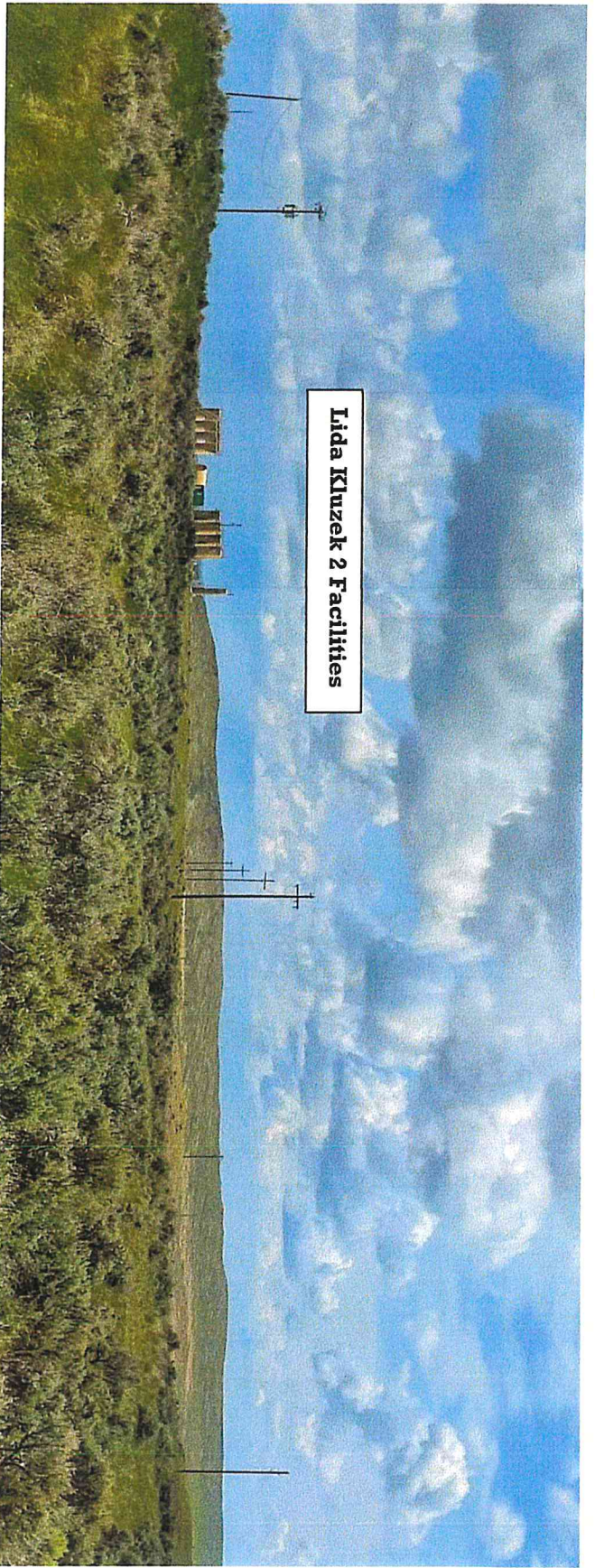
Power Pole #3

Power Pole 4

Kulzek #3

Power Pole 1





Lida Kluzek 2 Facilities

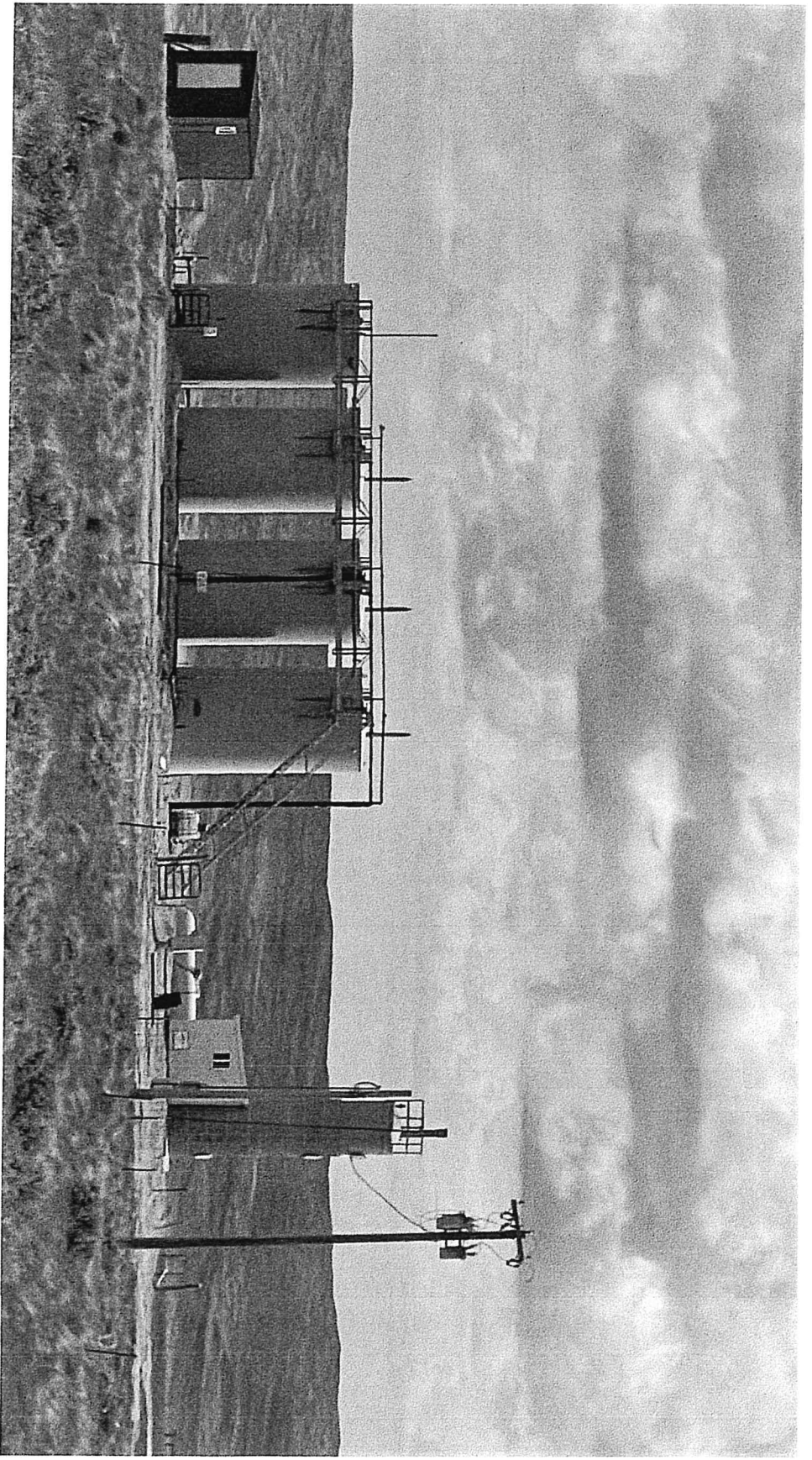
Existing above ground power line infrastructure with Lida Kluzek 2 (center left). Notice 9 existing power poles in view.



BN 41-19

Lida Kluzek 2 & Bailee 2 Facilities

Existing power line infrastructure north of access road (looking north by northwest). Notice nearly a dozen above ground power poles and the wells BN 41-19 and Lida Kluzek 2 in background.



Existing power pole adjacent to Lida Kuzek 2 facilities (view looking north by northeast)

PAD LAYOUT MAP

HC RESOURCES
P.O. BOX 20971, BILLINGS, MT 59401

LIDA KLUZEK #3
NE1/4 NW1/4
660' FNL & 1980' FWL
SEC. 20-T11N-R28E
MUSSELSHELL COUNTY, MT

New Access:
From existing Lida
Kluzek #1 pad area,
proceed 1100' East
along flagged route
over rolling grazing
lands to NW pad corner.

Topsoil Stockpile

Fill 4.0'

Toe of Fill
(2:1)

F 3.2'

F 1.5'

Location: Lida Kluzek #3
3229.0' Ground Elev.
3228.5' Graded Pad Eev.
Cut 0.5'

West

140'

100'

100'

Reserve Pit
(8' deep)

Cut/Fill Line

Spoils & Pit Stockpile

PAGE 14

SCALE 1" = 50'



CONTOUR INTERVAL = 2'

NOTES:

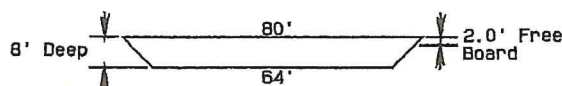
Location and pad area all
grazing lands; sagebrush,
and native grasses.

An 8" berm to be placed
above all cut slopes

A complete utility survey
was not conducted for
this survey

Dirt contractor to determine
final cuts/fills

Reserve Pit
(sideview)



KEHL SURVEY SOLUTIONS
P.O. BOX 21568
BILLINGS, MT 59104

Drawn by: R.K.

Checked by: M.Z.

Date: 10-17-2020

PAGE 15

All Stainless Steel
All American Made
Pigeon Spike Stainless



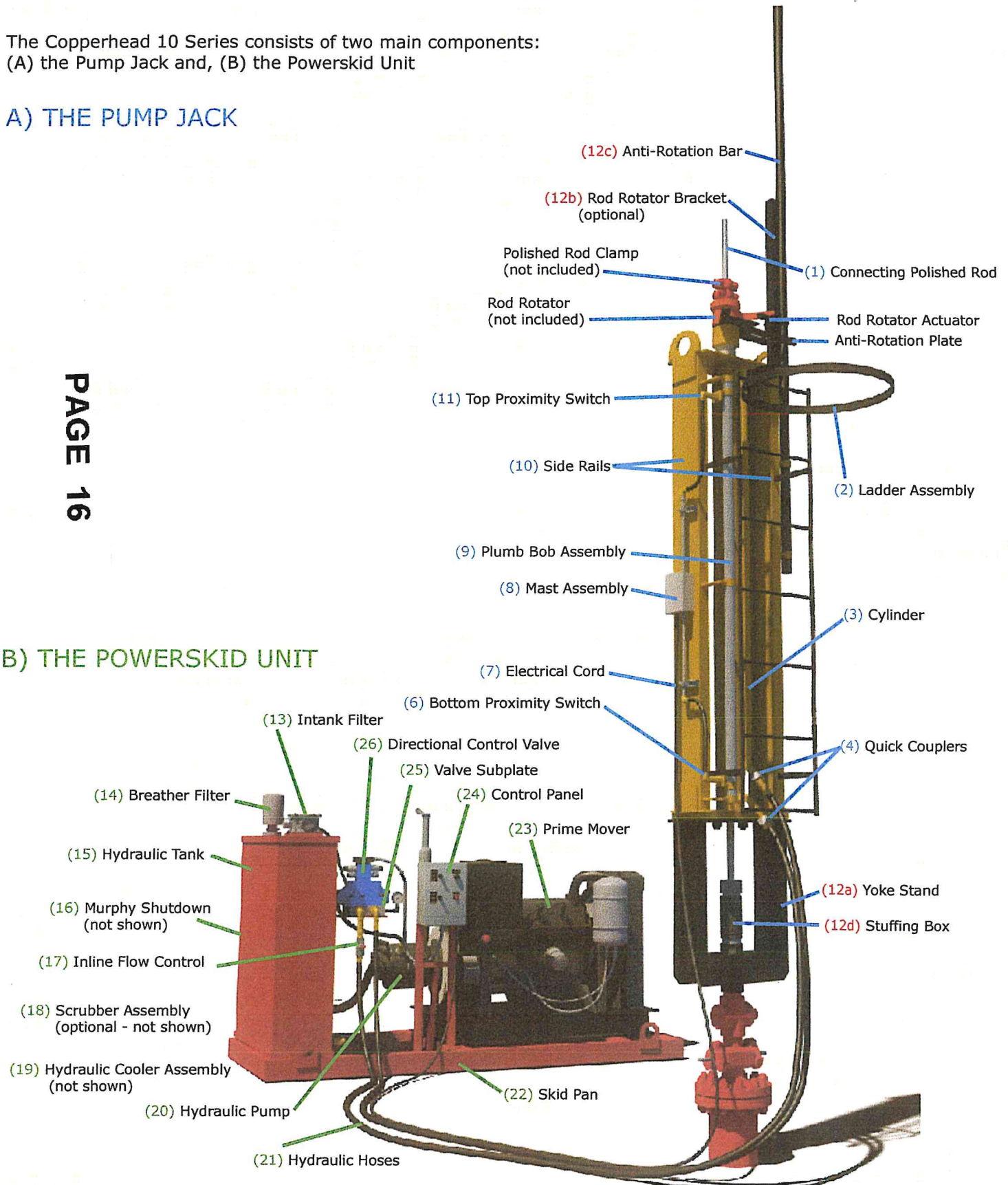
THE COPPERHEAD - 10 Series

The Copperhead 10 Series consists of two main components:
(A) the Pump Jack and, (B) the Powerskid Unit

A) THE PUMP JACK

PAGE 16

B) THE POWERSKID UNIT



MONTANA SAGE GROUSE OVERSIGHT TEAM AGENDA ITEM BRIEF SHEET

DATE: MAY 27, 2022

AGENDA ITEM: RULE MAKING CHANGE FOR HQT TECHNICAL MANUAL

ACTION NEEDED: EXECUTIVE ACTION TO APPROVE THE PROPOSED EDITS TO THE HQT TECHNICAL MANUAL

SUMMARY:

The Sage Grouse Program detected a technical error in the HQT Technical Manual that affects the computations necessary for updating the HQT Basemap. The HQT Basemap currently in use (v1.0 2018) was developed based on an extensive and rigorous stakeholder process during 2017 and pre-dates the publication of the HQT Technical Manual (October 2019).

Specifically, the error concerns the mathematical incorporation of the Unsuitable Lands designations within the HQT Basemap. The stakeholder process and subsequent 2018 HQT Basemap incorporates Unsuitable Lands through multiplication with Anthropogenic variables. However, the HQT Technical Manual incorporates Unsuitable Lands through averaging with Habitat and Population variables. This difference has major implications on the assessment of impacts for proposed projects within designated sage-grouse habitat as averaging results in higher base values, and thus, higher impacts assessed for development projects.

DETAILS:

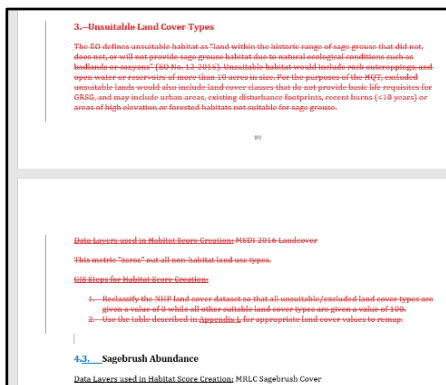
The HQT Basemap is composed of many GIS pixels that each contain a value ranging from 0 to 1. When multiplication is applied to values <1, the resulting value is overall lower due to the power of multiplication (e.g., any number multiplied by zero = zero). When averaging is applied, the resulting value reflects the central tendency of the numbers averaged. Overall, if Unsuitable Lands is included through averaging, those areas will result in a value >0. But, if Unsuitable Lands is included through multiplication, those areas will remain 0 in the HQT Basemap, thereby not contributing to impacts.

PROGRAM RECOMMENDATION:

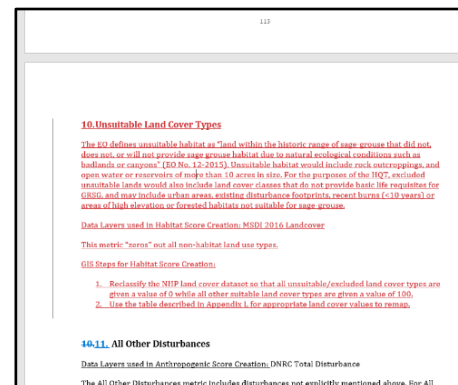
The Sage Grouse Program proposes to change the HQT Technical Manual to reflect the stakeholder intent of incorporating Unsuitable Lands with the Anthropogenic variables. The Sage Grouse Program recommends addressing this correction now in order to provide an updated and accurate HQT Basemap for Montana citizens. By implementing this correction, the Sage Grouse Program would:

1. Provide a consistent approach for updating the HQT Basemap,
2. Follow the recommendations provided by the original stakeholder process, and
3. Avoid the perpetuation of errors.

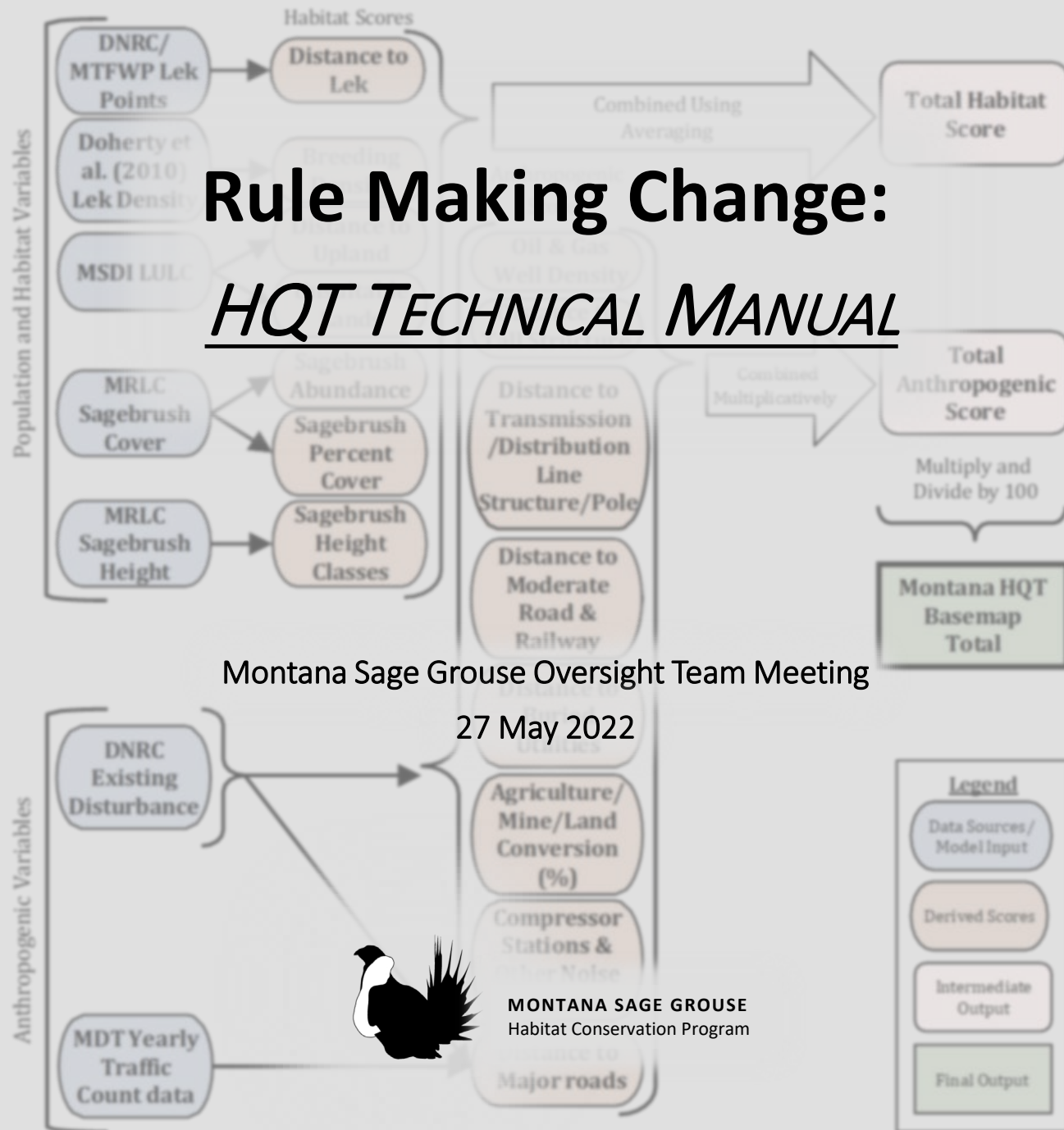
The correction of this technical error is considered a major change and thus requires rule-making. The Sage Grouse Program is also taking the opportunity to rectify grammatical errors and typos (considered minor changes not requiring rule-making) found within the HQT Technical Manual.



Within Appendix A,
remove Unsuitable Land
Cover Types from the
Population and Habitat
Variables section on page
89 and add Unsuitable
Land Cover Types to the
Anthropogenic Variables
section on page 114.



MONTANA SAGE GROUSE
Habitat Conservation Program



HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

➤ Executive Order 12-2015:

Unsuitable Habitat – is land within the historic range of sage grouse that did not, does not, nor will not provide sage grouse habitat due to natural ecological conditions such as badlands or canyons.

➤ 2017 stakeholder process included Unsuitable Lands to prevent those areas from contributing to project impacts/mitigation.



HQT Technical Manual:

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➤ 2017 stakeholder process included Unsuitable Lands to prevent those areas from contributing to project impacts/mitigation.

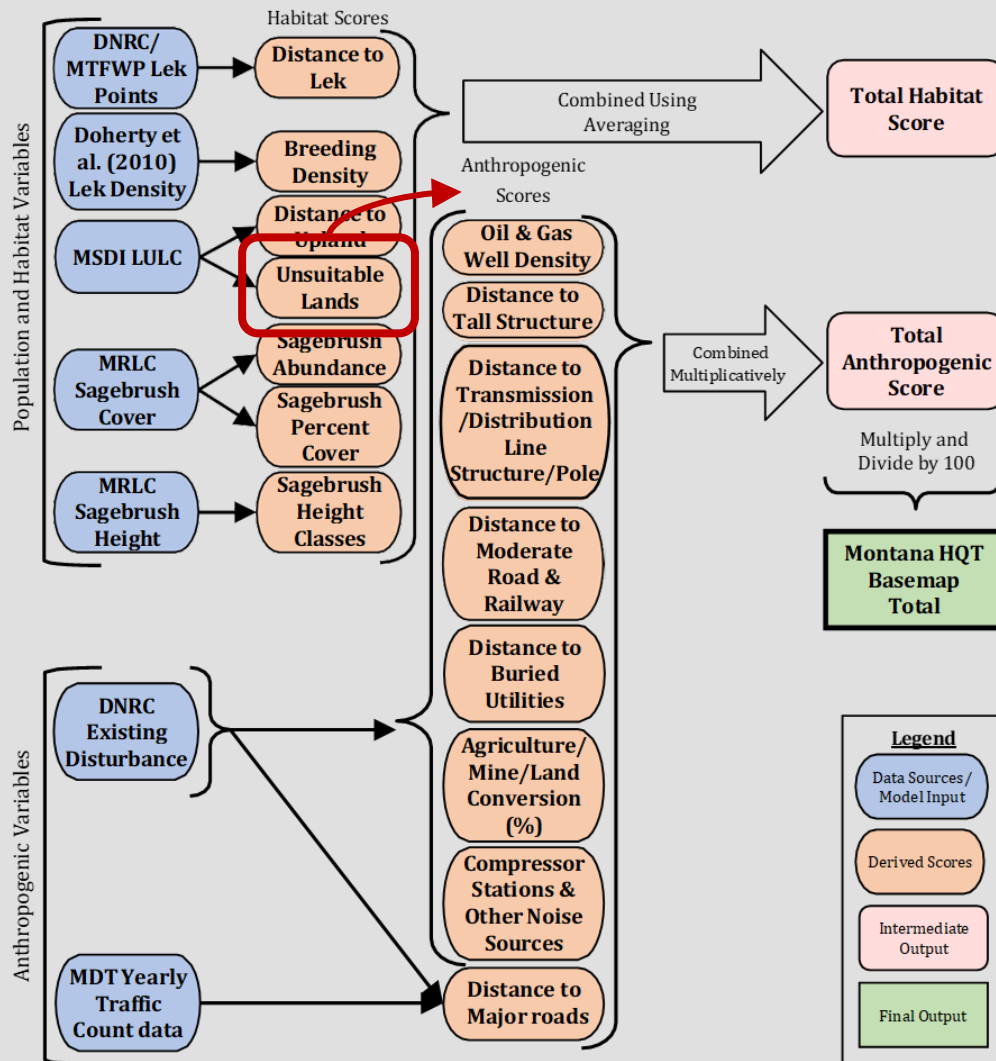
➤ Current status:

1. The HQT Basemap (v1.0 2018) includes Unsuitable Lands ***multiplicatively*** with the Anthropogenic Variables
2. The HQT Technical Manual (published in 2019) incorporates Unsuitable Land Cover Types through ***averaging*** with Habitat and Population variables



HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES



➤ GIS pixel values

❖ Scale: 0 to 1

❖ **Suitable = 1**

❖ **Unsuitable = 0**

➤ Multiplication vs. averaging of values



HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

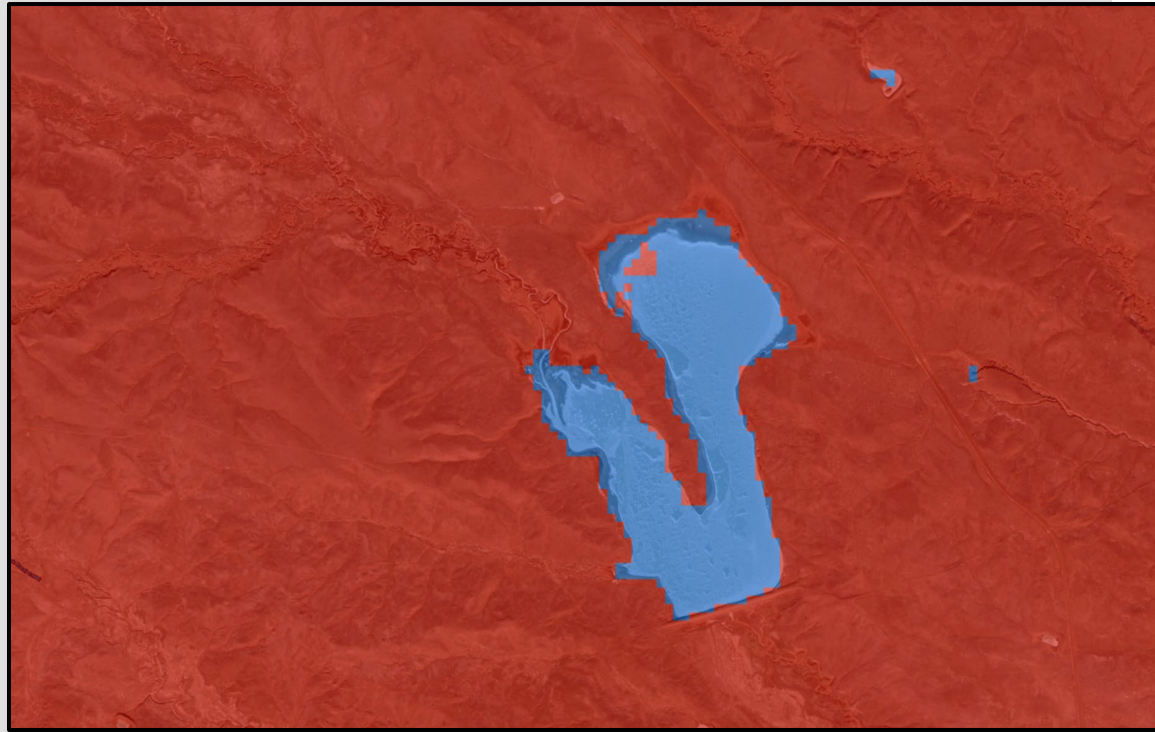
Imagery Reference:



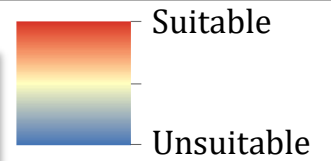
HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

Unsuitable Lands:



Unsuitable Lands Value

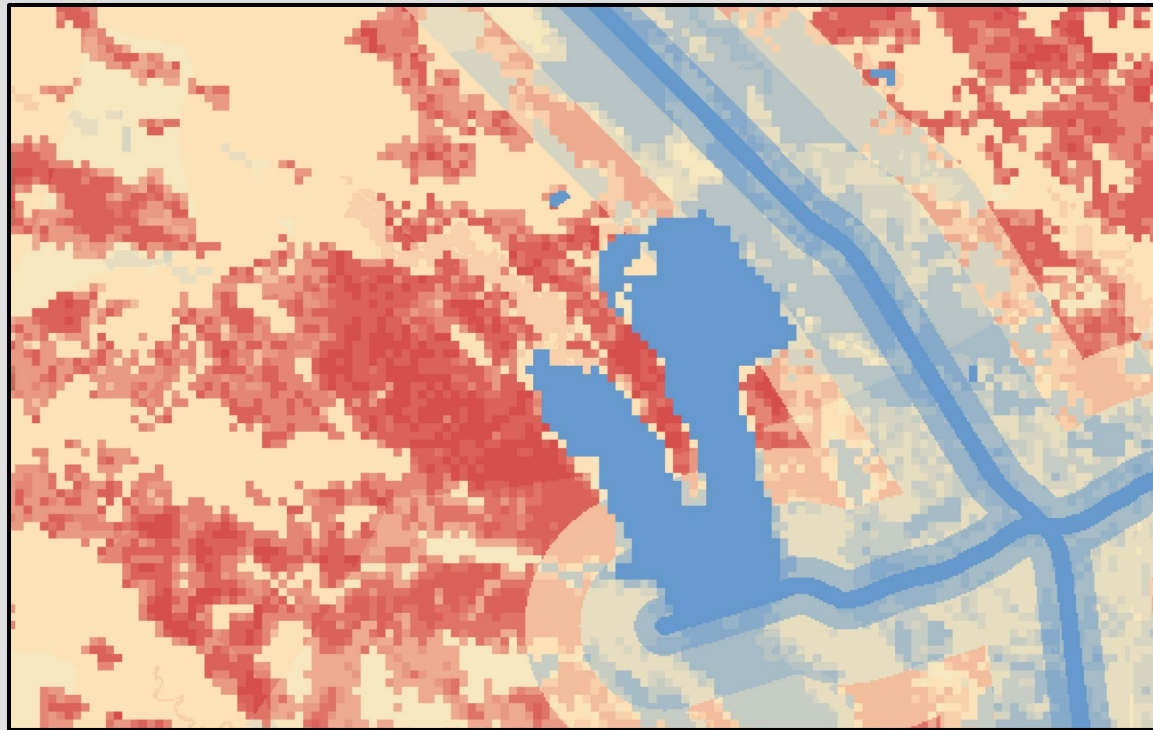


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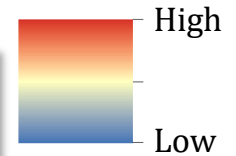
HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

HQT Basemap - Multiplication:



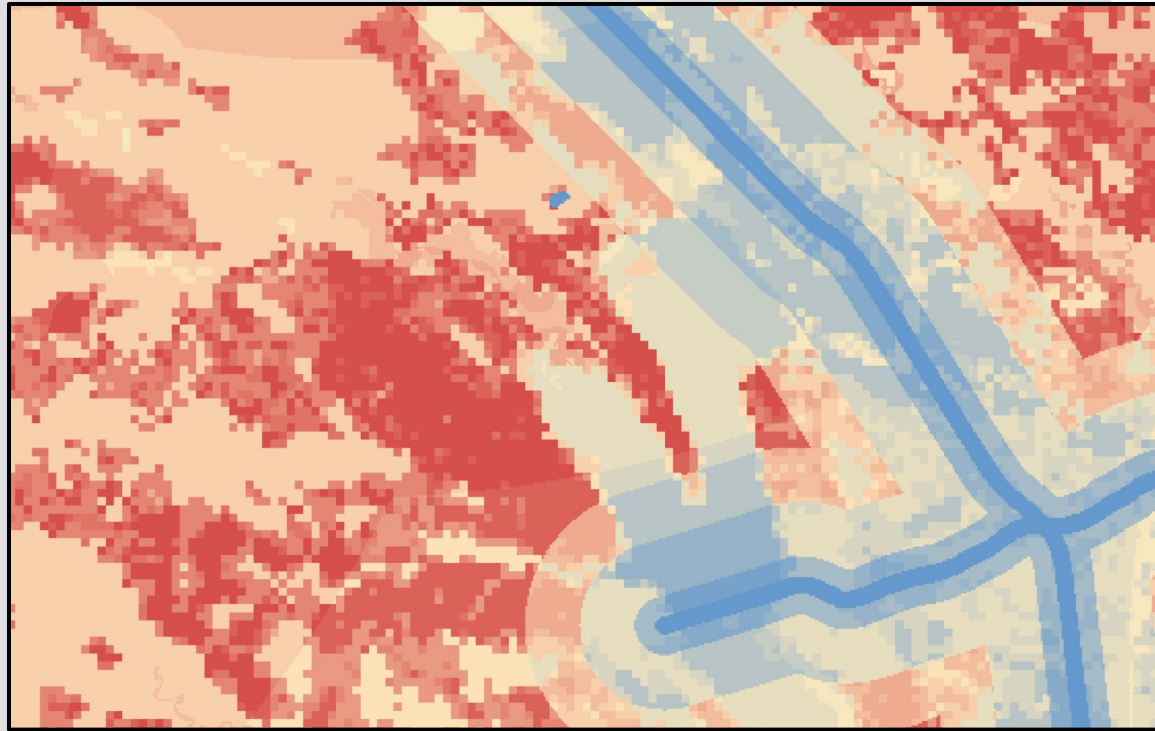
HQT Habitat Quality



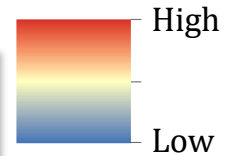
HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

HQT Basemap - Averaging:



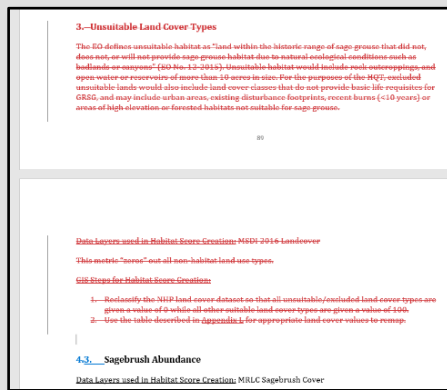
HQT Habitat Quality



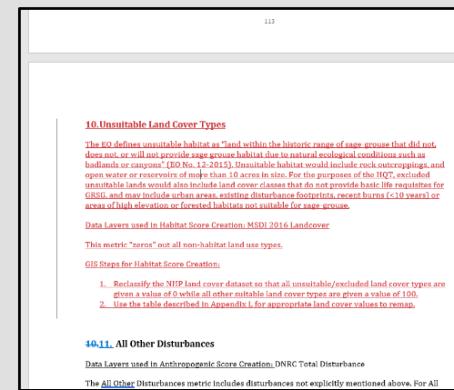
HQT Technical Manual:

INCORPORATION OF UNSUITABLE LAND COVER TYPES

- Propose editing the Technical Manual to reflect the 2017 Stakeholder process and the 2018 HQT Basemap:



Within Appendix A, remove Unsuitable Land Cover Types from the Population and Habitat Variables section on page 89 and add Unsuitable Land Cover Types to the Anthropogenic Variables section on page 114.



- No impacts to past and current projects as they are based on the 2018 HQT Basemap
- Results of proposed change:
 1. Provide a consistent approach for updating the HQT Basemap;
 2. Follow recommendations provided by the original stakeholder process; and
 3. Avoid the perpetuation of errors.





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