FLATLANDS ENERGY CORPORATION

Skwentna, AK

Coal Exploration Application

February 13, 2025

Flatlands Energy Corporation
Coal Exploration Application

Table of Contents

Section I. Summary of the Application

Flatlands Energy Corporation is applying to conduct coal exploration activities on coal lease ADL 553937 in the Susitna Coal Basin west of Skwentna. The exploration involves the activities outlined below. The approximate location of these activities is provided in Figures 1 and 2.

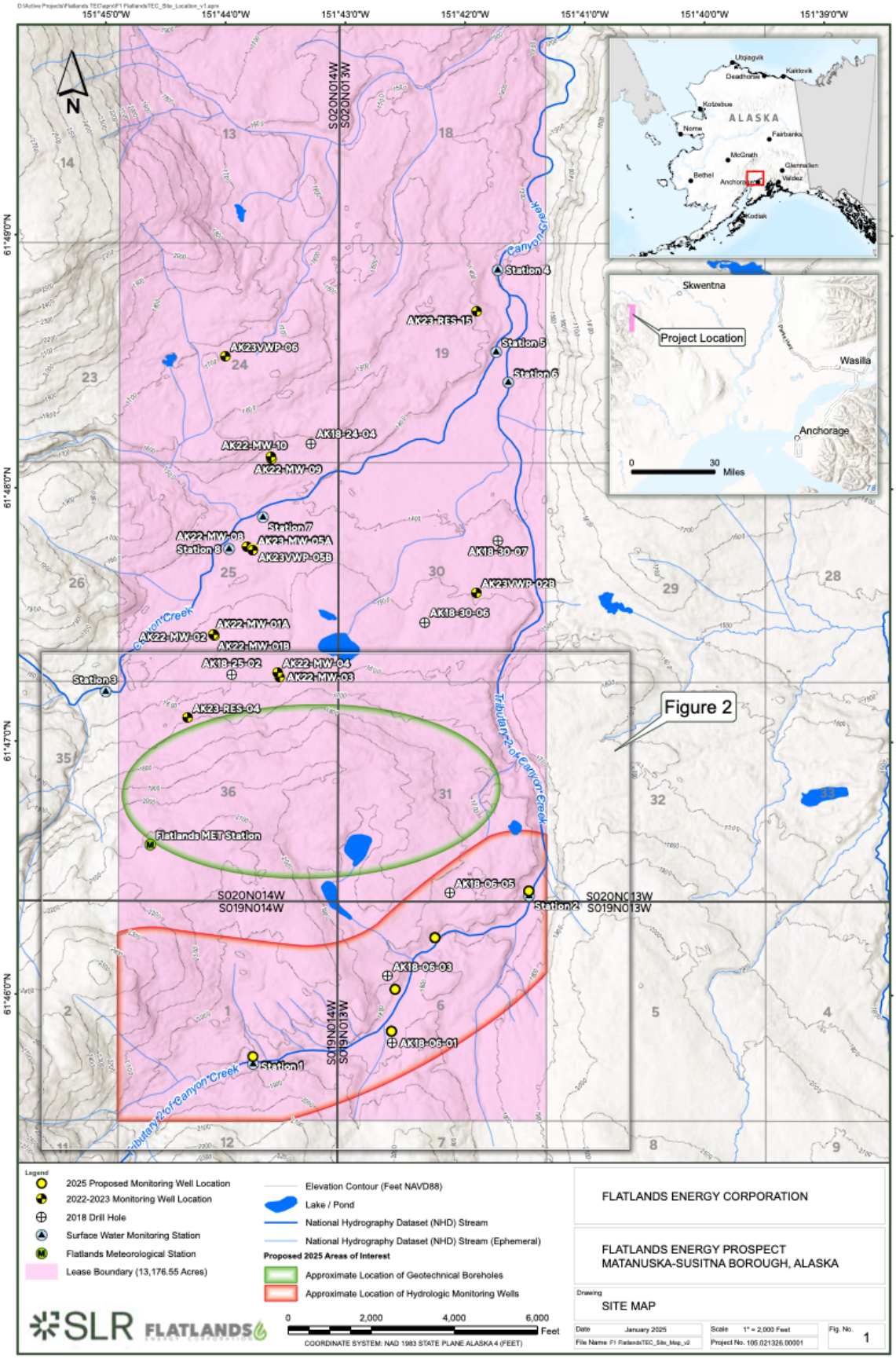
- ***Drilling – Hydrologic Monitoring Wells.*** Twelve wells are currently on the lease to monitor groundwater. The project proposes to drill up to an additional 12 hydrologic monitoring wells. The approximate locations are determined for the first six wells. These are planned for 2025. The additional six wells are contingency. The decision whether to drill them and their exact location will depend on the results of the first six wells. The location of the wells is provided in Figures 1 and 2, and detailed location and well depths are given in Table A-3, Appendix A. Depending on this summer's results, the location of these six contingency wells may move, though they will be within the outlines of the red line in Figure 1.

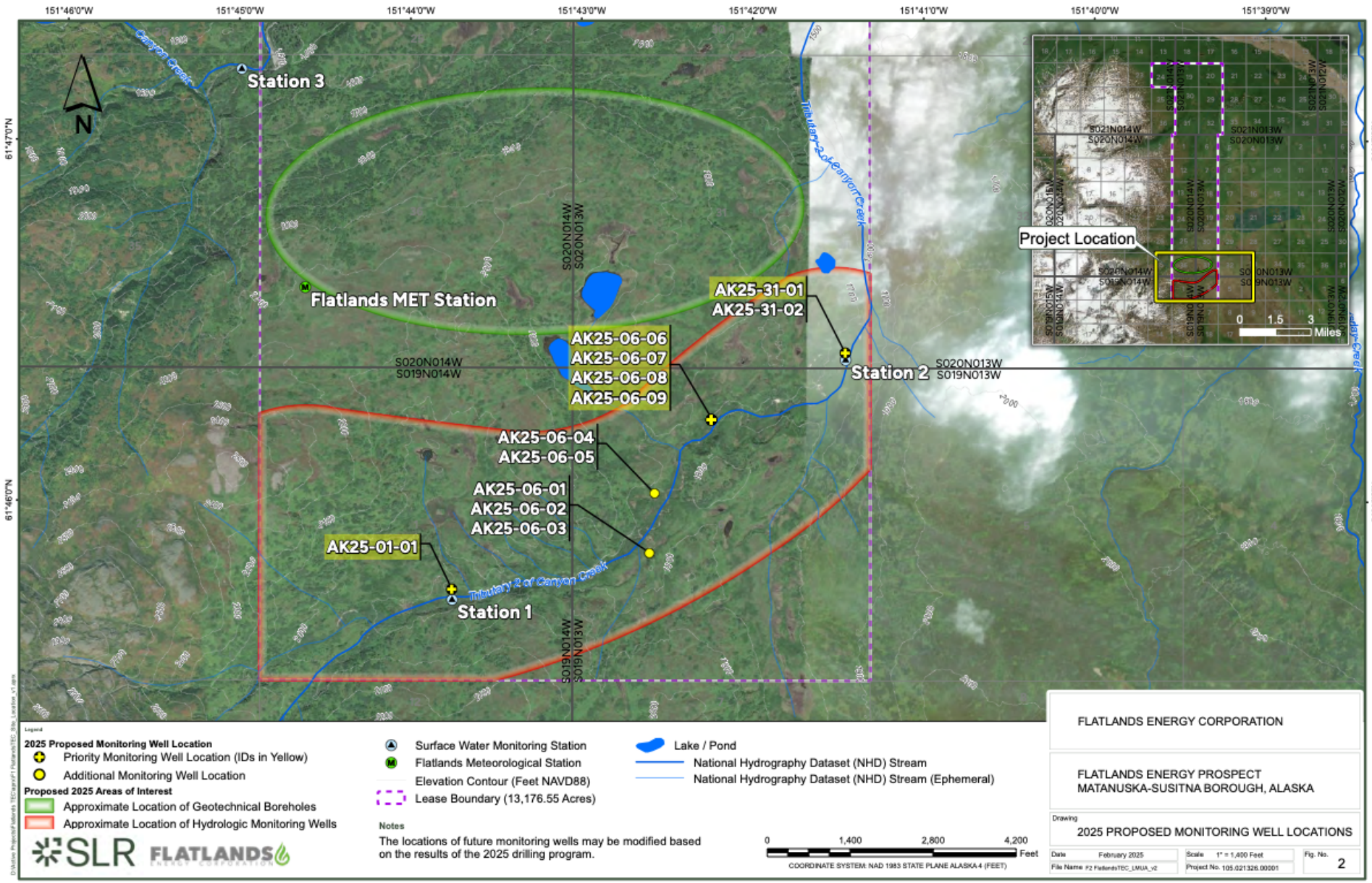
  The major purpose of the wells is hydrologic monitoring; the project may collect geologic core and other information from the wells. Hole depths vary from less than 50 feet to approximately 400 feet below the ground surface. Some wells are clustered (i.e., more than one is drilled from a single site). Drilling will be helicopter-supported; no roads or trails will be constructed. All wells will be drilled at least 100 feet from streams or lakes. The hydrologic casing for the hydrologic monitoring wells will remain for water sampling after the well is drilled. The sump and other disturbance will be reclaimed.

  For a more detailed discussion of the drilling technique, see discussion under 11 AAC 90.163(a)(2)(C) on Page III-4.

- ***Drilling – Geotechnical wells.*** The project proposes to drill up to 12 geotechnical wells. The geotechnical wells' precise locations have not yet been determined and may depend on fieldwork. However, all wells will be within the area outlined in green in Figures 1 and 2. The well diameter will be approximately 5 inches, and the depths will be less than approximately 300 feet. As with the hydrologic monitoring wells, drilling will be helicopter-supported, no roads or trails will be constructed, and all will be drilled at least 100 feet from streams or lakes. After each well is drilled, the site will be reclaimed before or during the drilling of the subsequent geotechnical well. All geotechnical wells will be fully reclaimed before the end of each drilling season. For a more detailed discussion of the drilling technique, see discussion under 11 AAC 90.163(a)(2)(C) on Page III-4.

- ***Water Quality Monitoring.*** The project has previously installed water quality and flow measurements at eight surface water sites in the area (locations in Table A-2, Appendix A). Transducer-type stage measuring devices are installed at each of the surface water stations. As noted above. groundwater monitoring wells are also present and proposed. The project will take groundwater samples from new and existing wells, the currently established surface water sites, and possibly other sites as needed. It expects to take samples three to four times during the year.


151°45'0"W
151°44'0"W
151°43'0"W
151°42'0"W
151°41'0"W
151°40'0"W
151°39'0"W
61°49'0"N
61°48'0"N
61°47'0"N
61°46'0"N
N
S020N014W
S020N013W
S019N014W
S019N013W
Canyon Creek
Tributary 2 of Canyon Creek
Station 1
Station 2
Station 3
Station 4
Station 5
Station 6
Station 7
Station 8
AK23VWP-06
AK23-RES-15
AK22-MW-10
AK22-MW-09
AK18-24-04
AK22-MW-08
AK23-MW-05A
AK23VWP-05B
AK18-30-07
AK23VWP-02B
AK18-30-06
AK22-MW-02
AK22-MW-01A
AK22-MW-01B
AK18-25-02
AK22-MW-04
AK22-MW-03
AK23-RES-04
Flatlands MET Station
AK18-06-05
AK18-06-03
AK18-06-01
Figure 2
ALASKA
Project Location
Skwentna
Wasilla
Anchorage
0
30
Miles
Legend
2025 Proposed Monitoring Well Location
2022-2023 Monitoring Well Location
2018 Drill Hole
Surface Water Monitoring Station
Flatlands Meteorological Station
Lease Boundary (13,176.55 Acres)
Elevation Contour (Feet NAVD88)
Lake / Pond
National Hydrography Dataset (NHD) Stream
National Hydrography Dataset (NHD) Stream (Ephemeral)
Proposed 2025 Areas of Interest
Approximate Location of Geotechnical Boreholes
Approximate Location of Hydrologic Monitoring Wells
0
2,000
4,000
6,000
Feet
COORDINATE SYSTEM: NAD 1983 STATE PLANE ALASKA 4 (FEET)
SLR
FLATLANDS
FLATLANDS ENERGY CORPORATION
FLATLANDS ENERGY PROSPECT
MATANUSKA-SUSITNA BOROUGH, ALASKA
SITE MAP
January 2025
1" = 2,000 Feet
1


151°46'0"W
151°45'0"W
151°44'0"W
151°43'0"W
151°42'0"W
151°41'0"W
151°40'0"W
151°39'0"W
61°47'0"N
61°46'0"N
N
Station 3
Flatlands MET Station
Station 2
Station 1
Canyon Creek
Tributary 2 of Canyon Creek
Tributary 2 of Canyon Creek
Project Location
0 1.5 3 Miles
S020N014W
S020N013W
S019N014W
S019N013W
S021N014W
S021N013W
AK25-31-01
AK25-31-02
AK25-06-06
AK25-06-07
AK25-06-08
AK25-06-09
AK25-06-04
AK25-06-05
AK25-06-01
AK25-06-02
AK25-06-03
AK25-01-01
Legend
2025 Proposed Monitoring Well Location
Priority Monitoring Well Location (IDs in Yellow)
Additional Monitoring Well Location
Proposed 2025 Areas of Interest
Approximate Location of Geotechnical Boreholes
Approximate Location of Hydrologic Monitoring Wells
Surface Water Monitoring Station
Flatlands Meteorological Station
Elevation Contour (Feet NAVD88)
Lease Boundary (13,176.55 Acres)
Lake / Pond
National Hydrography Dataset (NHD) Stream
National Hydrography Dataset (NHD) Stream (Ephemeral)
Notes
The locations of future monitoring wells may be modified based on the results of the 2025 drilling program.
0 1,400 2,800 4,200 Feet
COORDINATE SYSTEM: NAD 1983 STATE PLANE ALASKA 4 (FEET)
SLR
FLATLANDS ENERGY CORPORATION
FLATLANDS ENERGY CORPORATION
FLATLANDS ENERGY PROSPECT
MATANUSKA-SUSITNA BOROUGH, ALASKA
Drawing
2025 PROPOSED MONITORING WELL LOCATIONS
Date February 2025
Scale 1" = 1,400 Feet
Fig. No. 2
File Name F2 FlatlandsTEC_LMUA_v2
Project No. 105.021326.00001

- ***New Meteorologic station.*** The project also expects to replace the current meteorologic station with a different station and a larger tower. The current location is at latitude 61.77°, -151.73 longitude[1]. The new station location must be approved by DEC; therefore, the exact location cannot currently be determined. However, it is likely to be near the current station. If DEC recommends that it be in an area outside the boundaries of this exploration application, an amendment or new application will be submitted.

  The new station will have a much taller antenna: between 40 and 90 feet tall. The guy lines will extend between 30 and 70 feet in radius around the tower center, depending on the eventual tower height. It will require 2-3 people approximately 5 days to install the tower, and it will need to be serviced every six months, most likely 2 people for (1-2 days). Other trips may occur if the tower or equipment needs emergency servicing. The tower will have a light on the top to be visible to aircraft. There will be various equipment on the tower, a precipitation gauge nearby, etc. At the base of the tower will be a small shed and equipment (but not the guy wires). It will be surrounded by a fence for protection from the bears.

- ***Other activities not involving ground disturbance.*** Other exploration activities that do not involve significant ground disturbance may also occur, including geologic mapping and environmental investigation activities, such as fisheries or wetland studies.

There would be limited disturbance associated with any activity. No roads will be constructed, and no camp will be maintained in the area; crews will be flown in from off-site. Each exploration site will be reclaimed before the drill and equipment leave that site, except that the well itself, the met station, and the limited surface water sampling equipment may remain for water quality monitoring. These will be removed when they are no longer needed.

Exploration may begin soon after breakup or once the exploration permit is issued, whichever comes later. The company expects that the permit will be granted in time for drilling during the snow-free season this summer and early fall. Regardless, operations will cease, any disturbance aside from the hydrologic monitoring wells will be restored, and equipment other than surface water monitoring tools or meteorological site-related gear will be cleared from the site by the end of October. If necessary, the project may continue in 2026 after breakup and will be finalized by the end of October 2026.

History. The Mining & Minerals Division of Mobil Oil Corporation (Mobil) began exploring for coal in the Susitna Coal Basin in the 1970's and ceased operations in the early 1980's. Exploration work stopped, and Mobil let the coal leases lapse. Additional regional exploration was completed during the 1980s by other parties. Several geologic reports since 1966 provide data on coal quality and petrography, recently updated as part of the "Reconnaissance Coal Study in the Susitna Basin" (Alaska Division of Geological & Geophysical Surveys, 2014).

In 2015, DNR issued Coal Lease ADL 553937. On August 9, 2018, the DNR Division of Mining, Land, and Water issued Surface Coal Exploration Permit No. E-1601 to Flatlands Energy Corporation to drill up to 20 exploration holes. The permit term expired August 10,

[1] Location measured from the map, not by GPS.

2020. The company drilled 7 exploration holes. All holes and associated disturbance were reclaimed before the end of the permit term, except that the company left timbers at a single site for future exploration. DNR retained a bond for removal of the timbers.

On August 17, 2022, DNR issued Surface Coal Exploration Permit No. E-1601-1. Additional wells and surface water monitoring stations were drilled under that permit. In addition, the project completed snow surveys and installed a meteorologic station. DNR currently holds an exploration bond of $36,814 to ensure reclamation of the groundwater monitoring wells, equipment at the surface water monitoring sites, and to remove the meteorologic station.

Off-site Accommodations, Labor Force, and non-drilling work. Crews will be housed off-site. A helicopter will be used to move the drill and to transport crews to and from the site. The project has yet not determined whether work will occur 24 hours/day using two shifts, or whether drilling will occur in a single, half-day shift. The total workforce will include:

3 drillers, including the supervisor;
geologist;
helicopter pilot & mechanic; and
occasional visitors such as the project manager, water quality samplers, or environmental specialists.

In general, three drillers and one geologist will be present at the site during active drilling. One or two data loggers will spend approximately half a day at each hole. Others may come and go depending on the work.

Geologists will both observe the drillers and may be transported by helicopters to outcrops or other features for geologic sampling and mapping. In addition, 2-3 hydrologic sampling personnel will come to the well sites to take water quality samples or to supervise well development and testing. A hydrologic sampling crew will also visit stream sampling sites located in Figures 1 and 2, and possibly other stream sampling sites nearby. Geophysical loggers will mostly work off-site but will periodically work at the site as holes are completed. Visitors may also periodically be at the site.

Surface Water Sampling. Two or three individuals will occasionally be in the area to take water quality samples from area streams. They will be transported by helicopter. A few sample episodes are expected each year, in which the samplers visit pre-designed sample sites. In addition to taking one or more grab samples from each site to measure water quality, they may replace transducers to measure the hydrologic stage. The transducer is a small instrument placed on the streambed that measures pressure. It is connected via a cable to a small recording instrument on land and may be stabilized by a piece of rebar. All equipment and rebar will be removed from the site after there is no further need for water quality sampling or streamflow measurements. Samplers will also take samples from the groundwater monitoring wells. The samplers may also visit other locations.

Water Use. The project requests to use up to 20 gallons per minute (gpm) to supply the drill. That amount is the equivalent of 28,000 gallons per day (gpd). However, the amount will not be taken continuously, so the actual amount will be significantly less than 28,000 gpd. Nevertheless, the project will apply for temporary water use authorizations from DNR for taking water from

waterbodies including the Canyon Creek tributary in the drill area. (It has not applied as of the date of this application).

In addition to a water use permit, the project is also applying for a Fish Passage Permit from the Department of Fish and Game for the potential water sources without anadromous fish and for a Fish Habitat Permit for the anadromous portion of Canyon Creek. To protect fish that may be present, the project will screen a box 2 feet on a side (or similar volume), protecting the water intake with a screen of 1/8-inch or smaller mesh.

Locations are expected to be within 1,500 feet of the drill from locations with adequate flowing water. As some drill locations have not been precisely located, the project may take water from non-fish bearing rills and other waterbodies not included in the water use permit. In this situation, the project will not withdraw a "significant amount of water" as defined by 11 AAC 93.035. Specifically, it will not use more than 5,000 per day and not take from that source for more than 10 days.

The project will not directly take more than 25% from flowing water; therefore, it will not take the full 20 gpm water from streams flowing less than 80 gpm. However, some rills and small steep gullies will likely have a lower flow. For streams between 30 and 60 gpm or too small to accommodate a 2-foot square screen box, an alternative gravity method of water withdrawal will be used. A 1.5-inch or smaller pipe with a 1/8-inch screened end will be inserted in the stream at a slight slope for gravity drainage through the pipe to a container from which to pump water to the drill site. Overflow from the container will be diverted back into the stream from which it came. Fuel for the pump will not be stored within 100 feet of surface water.

For small streams with a flow rate less than 60 gpm, the project will measure streamflow using either the bucket method[2] or the float method.[3]

Reclamation. Except for minor excavation needed to level the drill platform or to construct a sump for drill cuttings, no significant ground disturbance is anticipated. Any disturbance will be backfilled and regraded by hand. In each case, segregated topsoil will be placed on top of the disturbance. Reclamation for each hole will be completed before the drill and crew leave that site to begin drilling a new hole, with the exception that the well casing will remain for collecting water quality information. Once activities at each site are complete, including reclamation, the project will not install any markers. The holes are expected to be indistinguishable from undisturbed areas by the next season, except for the well casing. The casing will be elevated approximately two feet above the ground surface, and a locking cover will be placed on the casing. The monitoring wells will be removed when they are no longer needed. The project will maintain a bond with DNR to cover the removal of the wells. The season following the removal of the wells, the locations should appear indistinguishable from the surrounding area.

[2] See State of Washington Department of Ecology publication "Estimating Discharge and Streamflow" The publication is available at https://fortress.wa.gov/ecy/publications/documents/0510070.pdf, and a copy has been provided to DNR, Coal Regulatory Program. See page 6 & 7.

[3] The float method involves locating a uniform reach near the withdrawal site, measuring the average width and depth (potentially using multiple depth measurements), and introducing a float to the water to measure average velocity. Streamflow is calculated as Streamflow = (average width) x (average depth) x (average velocity).

Per DNR policy, the drill holes will be completely filled using 50% bentonite and 50% cuttings. The near-surface casing will be removed.

Section II. DNR Application Form

Permit # / Notice # _____

ALASKA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING LAND & WATER
COAL EXPLORATION
Notice of Intent to Explore
and
Exploration Application

__ New Permit
_X_ Reauthorization of Existing Permit

The Alaska Surface Coal Mining Control and Reclamation Act requires that any person who intends to conduct coal exploration which **will not** substantially disturb the natural land surface complete and file with the Department of Natural Resources a notice of intent to explore. **The completion of Parts A (including submission of the required permit fee), B, and D of this form will meet these requirements.** This form must be received at least thirty (30) days prior to commencement of the exploration.

The Act requires that any person who intends to conduct coal exploration which **will** substantially disturb the natural land surface must file a complete application for exploration. **The completion of Parts A (including submission of the required permit fee), B, C, and D of this form will meet the applicant's submission requirements.** The application should be submitted approximately three months prior to the anticipated commencement of exploration.

Substantial disturbance means an impact on land, water, or air resources by activities such as blasting; mechanical excavation (excluding the use of light, portable field equipment); drilling or enlarging coal or water exploratory holes or wells; and construction of roads, structures, trails, aircraft landing and marine docking areas.

Please submit one hard copy and one electronic copy of all application materials as specified by the department.

Reference: Alaska Statute 27.21.200; 11 AAC 90.161 to 11 AAC 90.167.

PART A: GENERAL INFORMATION Ref: 11 AAC90.161; 11 AAC 90.163

1.1 Name of Applicant: Flatland Energy Corporation
Contact: Chad Schleusner (or Bob Loeffler)

1.2 Address of Applicant: c/o Skwentna Roadhouse, PO Box 110
Willow, Alaska, 99688

1.3 Telephone Number: Mr. Schleusner 907-2298698; Mr. Loeffler 907-250-4621

1.4 If applicable, provide the following information for the representative who will be present and responsible for the exploration activities.

1.5 Name of Representative: _____

1.6 Address of Representative: _____

1.7 Telephone Number: _____

1.8 Email Address: _____

2.0 Location of the Exploration See Attachement B

2.1 Legal Description (attach additional pages as needed):

Township	Range	Section	Aliquot Part	Meridian	Acres
Township	Range	Section	Aliquot Part	Meridian	Acres

Permit # / Notice # _____

2.2 Number of Acres in Exploration Area: Approximately 5,120 acres

2.3 Number of Acres of Federal Land (if applicable): None

2.4 USGS 1:250,000 or 1:63,360 Quadrangle Names: Tyonek d-5

2.5 Distance and Direction to Nearest Community (in miles): closest point is of exploration area is approximately 20 miles WSW of Skwentna

2.6 Attach map of exploration site and adjacent area.

3.0 Period of Exploration

3.1 Begin (Month/Year): When permit issued or after breakup, 2025

3.2 End (Month/Year): October 2026

4.0 Ownership of Surface/Subsurface Mineral Estate

If the surface or the mineral estate is owned or leased by someone other than the applicant, answer 4.1 - 4.5, as appropriate (**attach additional pages as needed**).

4.1 Surface Owner

Name: State of Alaska (General domain state land)
Address:
Telephone Number:

4.2 Mineral Estate Owner

Name: State of Alaska (General domain state land)
Address:
Telephone Number:

4.3 Surface Land Leaseholder

Lease #: None
Name:
Address:
Telephone Number:

4.4 Mineral Estate Leaseholder

Lease #: ADL 553937
Name: Flatlands Energy Corporation
Address: c/o Skwentna Roadhouse; PO Box 110
Willow, AK 99688
Telephone Number: 907-600-4638

4.5 Adjacent Surface & Mineral Estate Leaseholders

Lease #: None immediately adjacent
Name:
Address:
Telephone Number:

Permit # / Notice # _____

4.6 Right to Enter: Provide a statement describing the basis by which the applicant claims the right to enter the land for the purposes of conductil1g exploration and reclamation, Reference relevant federal, state, and local government prospecting permits or lease documents. Attach copies of supporting documents, as appropriate.

5.0 Fees — Ref: 11 AAC 90.011

5.1 Permit Fee $1,200 Attach receipt. (Refer to fee schedule below)

Exploration - notice of intent $80 (Receipt separately submitted).
Exploration· substantial disturbance $1,200 + cost of all public notices

PART B: NOTICE OF INTENT TO EXPLORE

6.0 Intention to Explore

6.1 Describe intended exploration activities, including major' pieces of equipment and their use.

6.2 Will exploration activities substantially disturb the natural surface of the land?

(•) YES ( ) NO

If yes, proceed to Part C; if no, answer 6.3 and proceed to Part D. (See definition on page 1 of this form.)

6.3 Describe practices to be used to protect the environment from adverse impacts resulting from exploration activities.

PART C: EXPLORATION PERMIT APPLICATION — Ref: 11 AAC 90.163; 11 AAC 90.167

7.0 Exploration Area Description

Note: all technical data in this application must be accompanied by:
1) names of persons and organizations who gathered and analyzed data;
2) dates of data collections and analysis;
3) description of procedures used; and
4) names, addresses and positions of officials of each agency consulted.

Attachment B

7.1 Indicate type(s) of surface disturbance: blasting. mechanical excavation Drilling, altering coal or water exploration holes and wells, road or trail construction or modification aircraft landing construction/modification marine docking facility construction/modification construction of structures placement of excavated material or debris on surface other, specify _____

Summary of application

7.2 Provide a map of at least a scale of 1:63,360 enlarged 2.5 times (~1:25000), showing the following existing surface features:

Figures 1 and 2 and Attachment D

a. existing roads and trails;

b. occupied dwellings and other structures;

c. pipelines, airfields and marine docking facilities;

d. bodies of water; .

e. historic, archeological and cultural features;

f. topographic and drainage features; and

g. habitats of endangered or threatened species.

7.3 §163(a)(2)(A) Using existing information, briefly describe, with cross references to the map in 7.2, the surface topography, geology, surface waters, predominant land use, and other physical features.

7.4 §163(a)(2)(A) Using existing information, briefly describe, with cross references to the map in 7.2, vegetation cover and important habitats of fish, wildlife and plants.

7.5 Does the exploration area include critical habitat of threatened or endangered species; or species such as eagles, migratory birds or other animals protected by state or federal law; or habitats of unusually high value for fish and wildlife?

§163(a)(2)(A) ○ YES ● NO

If yes, describe impact, control measures, management techniques and monitoring methods to be utilized to protect these species and habitats.

7.6 Does the exploration area include known archeological resources; or districts, sites, structures or objects listed on the National Register of Historic Places?

§163(aL(2)(B) ○ YES ● NO

If yes, identify and describe, and describe protection measures to be implemented.

8.0 Exploration and Reclamation Methods

8.1 Provide a map of at least a scale of 1:63,360 enlarged 2.5 times, showing the following exploration and reclamation features (if appropriate, this may be combined with the map required under 7.2):

a. the area to be disturbed by exploration and reclamation; .

Figure 1, 2 and Attachment D

b. access routes, including new roads, trails or other transportation facilities to be constructed, and existing facilities to be used or modified;

c. proposed excavations and trenches;

d. water or coal exploratory holes t6 be drilled or altered;

e. earth or debris disposal areas; f. sediment control measures, such as sediment ponds and structures for diverting overland flow, if required; and

g. other exploration or reclamation features.

8.2 Provide a description of exploration and reclamation methods and a discussion of how the exploration will comply with the performance standards in 11 AAC 90.167. Cross-referencing the map in 8.1, describe, at a minimum, the following:

a. types and uses of equipment;

b. design, construction, maintenance and removal of any proposed new roads, trails or other transportation facilities;

Most not applicable See description under §167

c. alteration and restoration of existing transportation facilities;

d. blasting procedures;

e. earth or debris disposal;

f. backfilling and regrading of all excavations, artificial flat areas, embankments or other disturbed areas to their approximate original contour;

g. topsoil removal, storage and redistribution;

h. seed mix, application rates, seeding method and other procedures to be implemented in the establishment of a vegetative cover on all disturbed areas;
i. procedures for plugging and abandoning exploration holes, boreholes, wells or other exposed underground openings;
j. procedures and control practices to be implemented to minimize disturbance to the prevailing hydrologic balance, including, if necessary, sedimentation control;
k. handling and disposal of known acid-forming or toxic-forming materials, if any; and
I. removal of all facilities and equipment.

8.3 Provide a timetable for each phase of exploration and reclamation including starting and ending date, type of disturbance, area of disturbance, and reclamation measures. (See Summary)

8.4 Give an estimate of the quantity of coal to be removed during the exploration. Specify method used to measure quantity. §163(a)(2)(E)

8.5 Give a detailed estimate of the cost of reclamation of all areas to be affected by exploration activities. §167(b)

PART D: EXPLORATION ON LANDS UNSUITABLE FOR MINING
Ref: 11 AAC 90.165

9.1 Does the proposed exploration area include any area previously designated as unsuitable for all or certain types of mining by the Commissioner of Natural Resources?

○ YES ◉ NO

If yes, complete section 9.2 and 9.3. . .

9.2 Indicate petition name and number: _____

9.3 Describe the basis for the designation of the area as unsuitable for mining and why exploration in the area is not incompatible with the values or features which led to the designation of the area.

Applicant's Name: Robert Power Title: President

I the above-named applicant states to the best of my knowledge and belief that all statements made in the notice of intent to explore or in the application to explore are true and correct.

Applicant's Signature: Robert Power Date: 12 Feb 2025.

Subscribed and sworn before me by Robert Power this the 12th day of February, 2025

Notary Public: Nathan Almeter My commission expires 04/19/2025

NATHAN ALMETER NOTARY PUBLIC STATE OF ALASKA My Commission Expires Apr 19, 2025 [SEAL]

Note: Attach a copy of power of attorney, or resolution of Board of Directors that grants signature authority)

Section III. Regulation-specific Information

This section provides information required by ASCMCRA law and regulations. It follows the organization of the regulations: 11 AAC 90.161, 163, and 167. The regulation is in italics and the require information is in normal font below each regulation.

11 AAC 90.161

§161(a)(1) the name, address and telephone number of the person seeking to explore and the person who will be present at and responsible for conducting the exploration activities;

Person seeking to explore:
Flatlands Energy corporation
c/o Skwentna Roadhouse
PO Box 110
Willow, AK 99688
E-mail: info@alaskaasia.com
Business License 2153412, valid until 12/31/25
Attn: Chad Schleusner, General Manager; Terra Energy Center
907-229-8698; cschleusner@tec-alaska.com

Additional Local contact:
Bob Loeffler, Partner
Jade North, LLC
2543 Brooke Drive
Anchorage, Alaska 99517
Tele: 907-250-4621
E-mail: bobl@jadenorth.com

§161(a)(2) a statement of the period of intended operations;

This application requests permission to begin exploration as soon as the permit is issued during summer 2025 or whenever the snow melts, whichever is later. Field activities will end by the end of October. The project may continue during summer 2026, most likely beginning soon after spring break-up, ending before the end of October. In addition, the project may take water quality samples periodically during the permit. (After the permit expires, the project assumes that helicopter-supported water quality sampling may be done on state land as an allowed use under 11 AAC 96.)

§161(a)(3) the names and address of all owners and leaseholders of record of the surface land and the mineral estate in the area to be explored.

The entire area is state land. There are no existing permits or leases other than the coal lease.

§161(a)(4) a map of the 1:63.360 scale series enlarged at least 2.5 times showing, based on available information, the area to be disturbed by the proposed exploration and reclamation activities, including existing roads, land excavations to be conducted, water or coal exploratory holes and wells to be drilled or altered, earth or debris disposal areas, bodies of water, historic, archeologic and cultural features, topographic and drainage features and the habitats of endangered or threatened species identified in (2)(A) of this section;

See Appendix D.

§161(a)(5) an explanation of the right of the person seeking to explore to enter and conduct exploration activities;

The company listed under §161(a)(1) intends to conduct exploration work on coal lease ADL 553937. Note that the DNR LAS system shows a different owner. The lease owner changed the corporation's name from DNR records at the time of the lease award. The company name is now Flatlands Energy Corporation. Information documenting the name change was submitted to DNR as part of the 2018 Exploration Application. A resolution by the corporation board authorizing the individual signing this application to sign for the board is provided in Attachment E.

§161(a)(6) a description of how the environment will be protected from the adverse impacts of the proposed exploration activities.

See Section I, Summary of the Application, and other sections of this application.

11 AAC 90.163

§163(a)(2) an exploration and reclamation plan of operations that includes:
(a)(2)(A) a brief description of the proposed area, cross-referenced to the map required under (4) of this section, including available information on the following:

surface topography; geologic, surface water, and other physical features;

The region which houses the lease area lies on the lower east flank of Dickason Mountain in the Susitna Coal Basin. Canyon and Contact Creeks are the major drainages within the lease area. Topography in the region is moderately to very rugged, with elevations ranging from 800 feet at the confluence of Canyon and Contact Creeks in section 29, T21N, R13W, to 2,500 feet in the southern end of the area. Contact Creek and the lower portion of Canyon Creek cut a particularly steep, narrow gorge through the northern part of the lease area.

The particular area of the exploration is generally rolling above the incised Canyon Creek. There are a few small waterbodies, but no large bodies of water. Portions of the area is forested with white and black spruce, birch, black cottonwood, alder, willow, and aspen. Portions of the higher ground are covered with mixed shrubs and tundra. Several distinct types of wetlands may occur within the lease area as well.[4]

vegetative cover;

The lease area includes forest, shrublands and wetlands, though wetlands comprise only 4.7% of the lease area based on a review of the U.S. Fish and Wildlife Service Wetlands Inventory. A planning-level wetlands inventory completed for the project shows roughly a similar amount of wetlands acreage. The shrublands outside wetlands are generally willow and alder. Dwarf shrub and dwarf scrub vegetation communities dominate higher elevations within the lease area including snowbeds, alpine drainage channels, and exposed slopes in the western portions of the lease area. Forest areas includes black and white spruce with the white spruce dominating on flat to gently sloping areas with well-drained soils, and black spruce dominating in poorly drained areas. The forest also includes broadleaf forest areas with paper birch as the dominant species, although cottonwood and aspen are present in some areas. There is also mixed forest including all of the major tree species above. The understory to these areas include typical Alaskan species including devil's club, horsetail, Labrador tea, blueberries, rusty menziesia, highbush cranberries, prickly rose, bluejoint reedgrass, mosses and lichens.[5]

fish, wildlife, and plants, including any endangered or threatened species listed under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 – 1543);

Canyon Creek and its tributaries, including those in the lease area, are catch-and-release for rainbow trout, within Unit 4 of the Department of Fish and Game Susitna River Drainage. Fishing in Canyon Creek north of the exploration area requires single-hook artificial lures.

DF&G's anadromous waters catalogue lists Canyon Creek and some tributaries as anadromous fish streams. With respect to Canyon Creek, the catalogue lists the mainstem as having King and Coho present through the lease area, and rearing in T20N R13W Section 19 and a few hundred feet upstream. The catalogue shows King Salmon present in in the tributaries in Sections 30 and 31, and Coho rearing there and further upstream.

Information gathered for this project in 2019 through 2023 shows a small amount of these species (< 25/reach) use the mainstem through the lease area and Tributaries 1.33 and 1.34. The project will apply for a Title 16 Anadromous Fish

[4] This information is adapted from the DNR Final Best Interest Finding for ADL 553937, page 13. July 5, 2013.
[5] This information is adapted from the DNR Final Best Interest Finding, pages 57-62.

Habitat permit for any water used by salmon, whether or not the water is from a reach currently listed in DF&G's anadromous waters catalogue.

According to the 2013 DNR Best Interest Finding, page 70, there are no upland threatened or endangered species within the exploration area. This conclusion was confirmed using U.S. Fish and Wildlife Service maps in 2018, 2022, and in January 2025. See discussion for §167(c).

(a)(2)(B) a description of known cultural or historic resources listed or eligible for listing on the National Register of Historic Places and known archaeological features within the proposed exploration area. The commission will, in the commissioner's discretion, require additional information regarding known or unknown historic or archaeological resources if these resources are likely to be affected by activities under this section;

DNR's 2013 Final Best Interest Finding, page 13, states, "There are no known historical or archeological sites within the lease sale area." To confirm the 2013 conclusion, project personnel contacted McKenzie Johnson at the Office of History and Archaeology on May 1, 2018. Ms. Johnson confirmed that there were no known historical or archeological sites within the lease sale area. The company attempted to contact the Office to review this application but has been unsuccessful. We understand the office will review this application as part of internal DNR review.

(a)(2)(C) a description of the methods to be used to conduct coal exploration and reclamation including, types and uses of equipment, drilling, blasting, road or other transportation facility construction, and earth and debris disposal areas;

The drilling program has two parts. The first is intended to determine subsurface hydrologic information including water quality. The drill will be HQ Core drill. Core will be removed from some but possibly not all of the holes and will be removed off-site. If the hole is not cored, drill cuttings will be deposited in a sump or spread on the nearby tundra. The locations are not within 100 feet of a catalogued anadromous fish stream. In no case will the project allow discharge of drilling muds, drill cuttings, or produced water to reach surface water. The holes will be drilled to a maximum depth of 400-feet. The hole diameter will be approximately 4-to-6 inches. The holes will be cased, and sections screened off so that water quality and hydrologic parameters may be tested. The well may be developed using pump tests. If so, produced water will be allowed to seep into the nearby tundra but will not enter surface water or wetlands.

The second part of the drilling will be geotechnical drilling. This drill will have an approximately 5" core casing. The geotechnical drilling will be shallower than the hydrologic drilling.

The drilling will be helicopter-supported, and no roads or trails will be constructed. The drill platforms will be on runners to minimize ground

disturbance. In some cases, minor grading will be required to level the platform, which will be roughly 20' x 20'. If leveling is required, topsoil and organics will be segregated so that it can be returned to the top of the disturbance during reclamation. The drilling will use non-toxic drilling muds. The mud names and SDS information for these muds is provided in Attachment E.

Surface disturbance will be limited to occasional hand-leveling and potentially hand-excavation of a 4-foot shallow trench or sump. No blasting, road, or other transportation facilities will be constructed, and there will be no earth and debris disposal areas.

Drilling fluids will be recycled using a tank, but some drill cuttings and water may come from the well and will be directed to a small trench or sump near the platform. The trench or sump will be hand-excavated and roughly 1 foot wide, 6 inches to 1 foot deep, and four feet long. No discharge from the tank or trench will be allowed within 100 feet of an anadromous stream, tributary, or lake. In addition, the project will not allow the discharge of drilling muds, drill cuttings, or produced water to reach other surface water.

(a)(2)(D) an estimated timetable for each phase of exploration and reclamation;

As noted previously, exploration will begin soon after the exploration permit is issued, or after break-up, whichever occurs later. It will end by approximately the end of October. Wells are expected to be drilled in 2025, though some may be drilled the following year. In any case, by the end of October work will stop, any disturbance will be reclaimed, and temporary equipment will be removed from the site. Winter operations are not anticipated.

Reclamation at each site will occur before the drill and crew leave the site, except the well casings will remain for water quality monitoring. The company has included in this permit application a reclamation bond that is adequate to reclaim the sites and to remove the groundwater monitoring wells when no longer needed.

The project expects to work with DEC to establish an appropriate location for the meteorologic station. The station is expected to be constructed in the spring, after break-up, though it may be constructed later in the summer, depending on the availability of equipment and DEC review.

Hydrologic monitoring and other incidental visits may occur at any time during the year, though concentrated in the snow-free season.

(a)(2)(E) the estimated amounts of coal to be removed and a description of the methods to be used to determine those amounts.

Negligible coal will be removed. The only coal to be removed is a core from each of the seams in the drill holes.

(a)(2)(F) the documentation required under (b) and (c) of this section if the applicant proposes to remove more than 250 tons of coal; and

Not applicable. The applicant not proposing to remove more than 250 tons of coal.

(a)(2)(G) a description of how the exploration activities will comply with 11 AAC 90.167.

See the section later in this application that provides the information required by 11 AAC 90.167.

§163(a)(3) the names and address of all owners and leaseholders of record of the surface land and the mineral estate in the area to be explored.

The land and mineral estate within the lease area is owned by the State of Alaska, managed by DNR, Division of Mining, Land and Water. The exploration area is within Coal Lease ADL 553937. The leaseholder is Flatlands Energy Corporation.[6] According to DNR's interactive land status mapping system, there are no other surface or mineral estate owners, lessees, or permit holders in or adjacent to the lease area.

§163(a)(4) a map of the 1:63:360 scale series enlarged at least 2.5 times showing, based on available information, the area to be disturbed by the proposed exploration and reclamation activities, including existing roads, structures, pipelines, and the proposed location of trenches, roads, rights-of-way and other access routes, land excavations to be conducted, water or coal exploratory holes and wells to be drilled or altered, earth or debris disposal areas, bodies of water, historic, archeological and cultural features, topographic and drainages features, and the habitats of endangered or threatened species identified in (2)(a) of this section; and

Appendix C provides maps at the scale indicated in this regulation. Note that there are no existing roads, strictures, pipelines, proposed trenches, proposed rights-of-way, or other access routes. Other than the incidental disturbance noted earlier, there is no excavation, historic archaeological or cultural features, and no threatened or endangered species.

§163(a)(5) a statement as to whether coal exploration is proposed for an area designated unsuitable for mining under AS 27.21.260.

The area is not designated unsuitable for mining under AS 27.21.260.

§163(b), (c), and (d) Extraction of more than 250 tons of coal under an exploration permit…

These three subsections are not applicable. This application does not propose extracting more than 250 tons of coal.

[6] DNR's LAS system indicates the lease is owned by a corporation with a different name. The corporation changed its name to Flatlands Energy Corporation. Documentation of the name change was provided to DNR in 2018.

11 AAC 90.167

§167(a) Coal exploration that substantially disturbs the land surface and associated reclamation operations must be conducted to minimize, to the extent practical, environmental damage. The operations must comply with this section; however, the commissioner will, in his or her discretion, waive certain requirements of this section upon a written finding that the requirement will be superseded by subsequent permitted operations. The commissioner will, in his or her discretion, impose additional performance standards to minimize environmental damage if the particular type of exploration activity requires them.

This subsection does not require specific information from the application. However, this application does not request waiver of any of the performance standards of this section.

§167(b) The commissioner will, in his or her discretion, require a performance bond. In determining the amount and conditions of the band and the criteria for bond release, the commissioner will consider the relevant provisions of 11 AAC 90.201 – 11 AAC 90.213 and will specify the bond amount, conditions, and release criteria in the decision under 11 AAC 90.165(e).

The reclamation bond will cover the cost of DNR completing the planned reclamation, should the applicant not reclaim the site. Reclamation of each well site will be accomplished before the drill and crew leave that site, except that the well itself will remain for hydrologic monitoring. Therefore, the greatest amount of potential disturbance that would be required to be reclaimed would be a single drill site and the removal of up to 25 water quality monitoring wells, and the limited equipment at 8 surface water sites. The project estimates that reclamation of this magnitude could be completed in 5, 10-hour days with a helicopter and two laborers. The project estimates an additional day to remove the meteorologic station.

Category	Cost
Helicopter	$34,320
Laborers	$8,623
Materials	$6,250
Seeding	$1,000
Subtotal	$50,193
Contingency @ 25%	$12,548
Total Bond	**$62,741**
Bond held by DNR	$36,814
New Funds Required	**$25,927**

Helicopter cost is estimated from an informal survey of helicopter rates; the estimated cost is $1,100/hr for a R44 helicopter, including fuel. This helicopter holds seats four people (or three people and gear). The distance from Merrill Field to the northernmost

part of the exploration area is approximately 80 miles. We presume two roundtrips to Anchorage each day at approximately 1.6 hours/trip. Further, we estimate 2 additional hours of helicopter time in the field, for a total of 5.2 hours per day or 15.6 hours total: $34,320

Labor Cost is estimated from the Alaska Department of Labor Website using Davis Bacon Wages for the region south of N73° Latitude and West of W138° Longitude. We assumed a group I, general laborer for $71.86/hr.[7] The total cost of 120 hours of labor equals approximately $8,623. The majority of the work is reclaiming the wells, including filling the well bore, cutting and pulling the near-surface casing, reclaiming any hand-excavated disturbance (if any), and seeding (if necessary). Work is made easier by the fact that some wells are paired: two adjacent wells. The hours include a day to dismantle and remove the meteorologic station.

Materials were estimated from experience at $250/well, or $6,250 total.

Seed costs are minimal given the agency's preference to rely upon natural revegetation. (See information provided for §167(j)). In addition, the disturbed area is likely to be a few tens of square feet per well. To ensure these costs are covered the bond estimate includes an allowance for $1,000 for seed costs.

Finally, the bond estimate includes a 25% contingency for unforeseen costs such as additional helicopter time or the reclamation time to go over 120 labor-hours.

§167(c) The applicant must utilize impact control measures, management techniques and monitoring methods to protect endangered of threatened species listed under the Endangered Species Act of 1973 (16 U.S.C. Sec 1531 et Seq.), and their critical habitats; species such as eagles, migratory birds or other animals protected by state or federal law, and their habitats; and habitats of unusually high value for fish and wildlife.

There are no threatened and endangered species in the exploration area (2013 DNR Best Interest Finding, page 70), confirmed by the U.S. Fish and Wildlife Service mapping explained below. There are few trees, and tree clearing is unlikely. In the unlikely event that minimal clearing is required, it will not occur during the migratory bird treaty clearing prohibition, May 1 – July 15. The drilling, mapping, nor water sampling will not affect streams, fish habitats or fish populations.

To update the 2013 Best Interest. Finding conclusion, the project consulted the U.S. Fish and Wildlife Service's interactive mapping system titled, "IPaC: Information for Planning and Consultation" on May 3, 2018, reconfirmed on May 24, 2022, and reconfirmed on January 5, 2025. The interactive mapping system confirmed that there are "No threatened and endangered species expected to occur" in the exploration area, and that "There are no migratory birds of conservation concern expected to occur" in the exploration area.

[7] https://www.labor.state.ak.us/lss/forms/Pamphlet_600_Issue_49.pdf; effective September 1, 2024.

§167(d) The applicant must protect any cultural resources or districts, sites, buildings, structures or objects listed on the National Register of Historic Places, except to the extent approved jointly by the commissioner and the agency with jurisdiction over the protected place.

Nothing in the exploration area is either listed or has been determined eligible for the National Register of Historic Places. [See also response to §163(a)(2)(B)].

§167(e) Construction of new roads, aircraft runways, and marine facilities must be limited to the minimum necessary for the approved exploration and reclamation activities. Travel must be confined to existing roads, trails, runways, and marine facilities when excessive damage to vegetation or rutting of the land surface could result.

No aircraft runways, or marine facilities will be constructed. There are no existing trails or roads to the exploration area, and none will be constructed.

§167(f) Existing roads, trails, runways, and marine facilities may be used under the following conditions: (1) All applicable federal, state, and local requirements must be met. (2) If the road, trail, runway or marine facility is significantly altered or its use contributes additional suspended solids to streamflow or runoff, (j) of this section applies to those portions of the activity. (3) After exploration and reclamation activities are completed, the road, trail, runway, or marine facility must be restored to a condition equal to or better than the pre-exploration condition.

No existing roads, trails, runways, or marine facilities will be used.

§167(g) Roads, trails, runways, and marine facilities constructed or significantly altered for the exploration and reclamation activities must comply with 11 AAC 90.491 for design, construction, maintenance and removal. The commissioner will, in his or her discretion, require the use of rolligons and air-cushioned vehicles or winter roads when necessary to minimize environmental impacts.

No existing roads, trails, runways, or marine facilities will be used.

§167(h) Excavations, artificial flat areas, or embankments created during exploration must be returned to the approximate original contour when no longer needed.

Any excavation will be accomplished by hand. If needed, hand excavation will include leveling for the runners of the drilling platform, or a hand-dug trench roughly 1-foot wide, 6-inches to 1-foot deep and four-feet long. Each excavation will segregate the topsoil from the underlying material. Any disturbance will be reclaimed by filling in the disturbance with the topsoil on top. Reclamation of small potential disturbances will mimic the ground's original contour. It is also quite likely that no significant grading will be required during the life of this exploration application.

§167(i) Topsoil must be removed, stored, and redistributed on disturbed areas as necessary to assure successful revegetation.

See response to §167(h), above.

§167(j) All disturbed areas must be reseeded or planted to the same seasonal characteristics of growth as the original vegetation. The vegetative cover must be capable of stabilizing the soil against erosion. Revegetation must be carried out in a manner that encourages prompt vegetative cover and recovery of productivity levels compatible with the approved post-exploration land use. If both the pre-exploration and post-exploration land use is intensive agriculture, planting of crops normally grown will meet the requirements of this section.

The project will use an appropriate seed mix approved by the DNR Plant Materials Center to reseed appropriate disturbed areas. The seed mix recommended by the Plant Materials Center[8] is an "upland interior seeding mixture" with:

'Nortran' Tufted Hairgrass 40%
'Arctared' Red Fescue - 15%
'Boreal' Red Fescue - 15%
'Wainwright' Slender wheatgrass - 20%
Annual Rye grass - 10%

The project will use that or a similar seed mix (if some species are not commercially available). Disturbed areas appropriate for reseeding are those which surface organics, including vegetation, which are re-spread on the disturbance do not substantially cover the disturbance area, and which are large enough to have the potential to potentially generate erosion.

The company expects that the total disturbance for the project, as described previously, will be very small. The total that warrants re-seeding will be smaller yet and possibly negligible.

The company has included an allowance for seeding in the reclamation bond of $1,000. This appears more than enough. On most drill sties, no seeding is likely to be needed as the minimal disturbance should be reclaimed by re-spreading topsoil and surface organics including vegetation. The Plant Materials Center indicates that the typical application rate is one pound of seeds per 1,000 square feet. As the project disturbance is expected to be minimal, a few pounds of seed are likely to be more than sufficient. Therefore the $1,000 in the reclamation bond should be more than the actual cost of purchasing and spreading seed.

The best method to ensure vegetative cover is to minimize disturbance of the existing cover (i.e., minimize or avoid disturbance). By putting the drill platform on runners and minimizing the need for disturbance, the project will maintain the native cover. The next best method is to re-spread topsoil, organics, and stockpiled vegetation back on the

[8] Casey Dinkel, DNR Plant Materials Center, personal conversation and e-mail, May 4, 2018.

disturbed area. These are the preferred methods. Should the unexpected occur and disturbance indicate the potential for erosion, the project will implement appropriate BMPs from DEC's User's Manual for Gravel/Rock Aggregate Extraction Projects.[9]

§167(k) Except for small and temporary diversions of overland flow of water around new roads, runways, marine facilities, drill pads, and support facilities, no ephemeral, intermittent or perennial stream may be diverted. Overland flow must be diverted in a manner that prevents erosion and complies with all other applicable federal and state laws and regulations.

No ephemeral, intermittent or perennial stream will be diverted. No significant diversion of overland flow is expected.

§167(l) Each exploration hole, borehole, well, or other exposed underground opening must comply with 11 AAC 90.303 – 11 AAC90.305.

Per DNR policy, the drill holes will be reclaimed using a 50% bentonite and 50% cuttings. The near-surface casing will be removed. Each well will be reclaimed before the drill and crew leave that site. Once the monitoring wells are removed, they will be reclaimed to the same standard. The area immediately surrounding the drill hole will be mounded to promote run-off away from the drill collar.

In the event that there are inadequate drill cuttings, the project will obtain fine-grained material from adjacent to the drill site. The project will scrape away organic top layer; use the fine-grained sediment, smooth the small barrow pit to blend into the landscape, and finally replace the organic material on top. With respect to seeding the area, see answer to §167(j), above.

The relevant SDS Sheets for drilling fluids that may be used at the site are included as Attachment E.

§167(m) all facilities and equipment must be removed when no longer needed, unless the commissioner approves retention for a specified period to (1) provide additional environmental quality data; (2) reduce or control the on- and off-site effects of the activities; (3) facilitate future operations under an approved permit or exploration approval.

All equipment and facilities will be removed at the end of exploration for that season except for the well themselves which will remain to monitor groundwater.

[9] Many of the BMPs in that manual (available from: http://dec.alaska.gov/water/wnpspc/protection_restoration/bestmgmtpractices/gravel.htm) are only appropriate for larger projects.

§167(n) Exploration and reclamation must minimize disturbance to the prevailing hydrologic balancing, including, if necessary, sedimentation control measures that comply with 11 AAC 90.329 and 11 AAC 90.331 or other measures required by the commissioner.

No activities within this exploration application will affect the prevailing hydrologic balance in any manner.

§167(o) Known acid-forming or toxic forming materials must be handled and disposed of in compliance with 11 AAC 90.335 and 11 AAC 90.445 or other measures required by the commissioner.

No known acid-forming or toxic materials will be handled or disposed of. The coal cores will be transported off-site. If an R/C drill is used, the cuttings will be placed in a sump or distributed near the well.

§167(p) The person conducting exploration activities must have available for review on-site the approval granted under 11 AAC 90.165.

No information requested. For more information, please see Water Use discussion on page I-6.

Appendix A
Location of Established Surface Water Monitoring Stations
Location of Existing and Proposed Groundwater Monitoring Wells.

Table A-1. Existing Surface Water Sites

Station	Location Description	Latitude	Longitude
Station 1	Tributary 2, originating southwest of the site	61.7621	-151.7292
Station 2	Tributary 2, downstream of Station 1	61.7732	-151.6909
Station 3	Canyon Creek, originating west of the lease	61.7866	-151.7498
Station 4	Canyon Creek, downstream of the confluence of Canyon Creek maintributary and Tributary 2	61.8144	-151.6954
Station 5	Canyon Creek, mainstem upstream from the confluence with Tributary 2	61.8090	-151.6956
Station 6	Tributary 2, upstream of the conrfluence with the mainstem of Canyon Creek	61.8070	-151.6939
Station 7	Canyon Creek, downstream of inflows from ephemeral stream	61.7981	-151.7280
Station 8	Canyon Creek, upstream of inflows from ephemeral stream	61.7960	-151.7327

Table A-2. Existing Groundwater Monitoring Wells

Station	Latutitude	Longitude	Depth
AK22-MW-01A	61.7904	-151.7348	18.5
AK22-MW-01B	61.7903	-151.7347	69
AK22-MW-02	61.9704	-151.7348	213.5
AK22-MW-03	61.7876	-151.7256	30
AK22-MW-04	61.7879	-151.7259	120
AK22-MW-08	61.7962	-151.7302	85
AK22-MW-09	61.8020	-151.7268	19
AK22-MW-10	61.8021	-151.7269	102
AK23-MW-05A	61.795977	-151.7294	131.7
AK23-VWP-02B	61.793246	-151.698293	320
AK23-VWP-05B	61.795977	-151.729426	342
AK23-VWP-06	61.808700	-151.733260	323

Depth is feet below ground surface

Table A-3. Groundwater Monitoring Wells Proposed for 2025 and 2026

Category	Well ID	Target Formation	Approx Depth	Proposed Testing
Proposed for 2025	AK25-01-01	Alluvial	50	Slug Testing & WQ Sampling
Proposed for 2025	AK25-06-06	Alluvial	50	Slug Testing & WQ Sampling
Proposed for 2025	AK25-06-07	Coal and Interburden	250	Slug Testing & WQ Sampling
Proposed for 2025	AK25-06-08	Sandstone	350	Slug Testing & WQ Sampling
Proposed for 2025	AK25-06-09	Andesite	400	Slug Testing & WQ Sampling
Proposed for 2025	AK25-31-01	Alluvial	50	Slug Testing & WQ Sampling
Contingency	AK25-06-01	Alluvial/Glacial Drift	<50	Slug Testing & WQ Sampling
Contingency	AK25-06-02	Coal and Interburden	100	Slug Testing & WQ Sampling
Contingency	AK25-06-03	Sandstone	150	Slug Testing & WQ Sampling
Contingency	AK25-06-04	Alluvial	50	Slug Testing & WQ Sampling
Contingency	AK25-06-05	Coal and Interburden	200	Slug Testing & WQ Sampling
Contingency	AK25-31-02	Coal and Interburden	200	Slug Testing & WQ Sampling
Depth is given in feet below ground surface				
For discussion of "contingency" wells, see Page I-3				

Attachment B
Coal Exploration Area, Township Range Description

All descriptions are within the Seward Meridian

T20N, R13W Sections 19, 30, 31	1,920 acres
T20N, R14W Sections 24, 25, 36	1,920 acres
T19N, R13W Section 6	640 acres
T19N, R14W, Section 1	640 acres
	Total: 5,120 acres

Note: The drilling is limited to the four southern sections, i.e., 2,560 acres. The exploration area includes additional sections to encompass surface water monitoring sites and groundwater monitoring wells.

Attachment C
Response to Application Question 7.0

DNR's Coal Exploration Application, Question 7.0 requests:

1) names of persons and organizations who gathered and analyzed data;

No original environmental data was gathered for this application. However, the application used fisheries data collected for the project in 2019 -2023. 2019 data was collected by Owl Ridge Natural Resources Consultants, Inc.: (907)-433-3448; www.owlridge.com). Later data was compiled by ABR, Inc.: (907) 344-6777; www. https://www.abrinc.com/; Attention John Seigle. Some environmental data was taken from DNR's 2013 Final Best Interest Finding. Individuals who provided information for this application are listed below.

Bob Loeffler
Jade North, LLC
907-250-4621; bobl@jadenorth.com

2) dates of data collections and analysis;
3) description of procedures used; and

No original environmental data was gathered for this application.

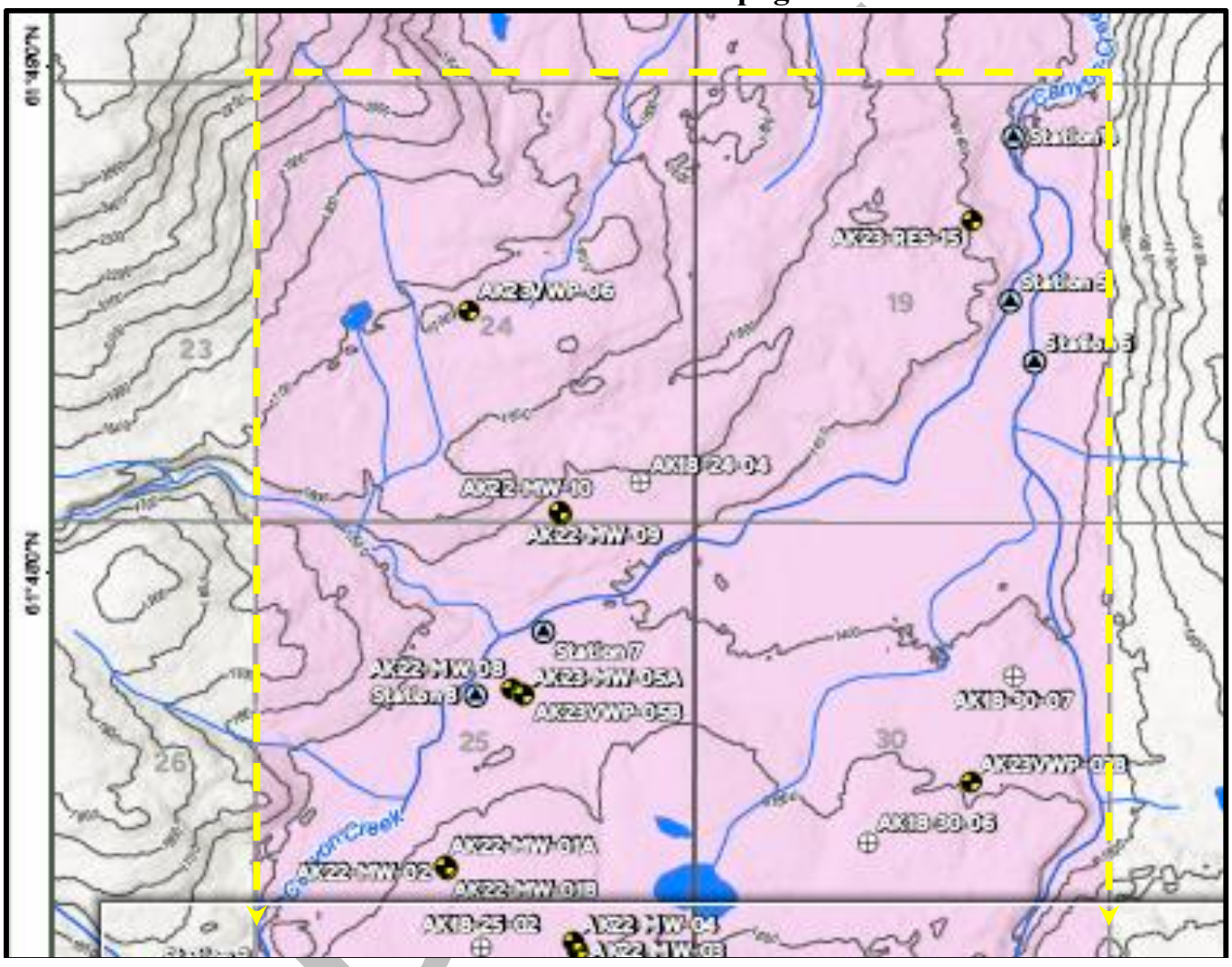
4) names, addresses and positions of officials of each agency consulted.

Russ Kirkham, Coal Regulatory Manager
Department of Natural Resources, Division of Mining, Land and Water
550 W 7th Ave; Suite 900b
Anchorage, AK 99501-3577

Attachment D
Required Maps

11 AAC 90.161(a)(4), and Question 7 on the DNR Application form requires maps to be enlarged to 1:25,000. The two maps in this appendix are enlargements of Figure 1.

Northern Half of Exploration Area
Area of exploration application is within the yellow boundary,
continued on the next page



Legend
- 2025 Proposed Monitoring Well Location
- 2022-2023 Monitoring Well Location
- 2018 Drill Hole
- Surface Water Monitoring Station
- Flatlands Meteorological Station
- Lease Boundary (13,176.55 Acres)
- Elevation Contour (Feet NAVD88)
- Lake / Pond
- National Hydrography Dataset (NHD) Stream
- National Hydrography Dataset (NHD) Stream (Ephemeral)

Proposed 2025 Areas of Interest
- Approximate Location of Geotechnical Boreholes
- Approximate Location of Hydrologic Monitoring Wells

SLR FLATLANDS

0 2,000 4,000 6,000 Feet

COORDINATE SYSTEM: NAD 1983 STATE PLANE ALASKA 4 (FEET)

FLATLANDS ENERGY CORPORATION

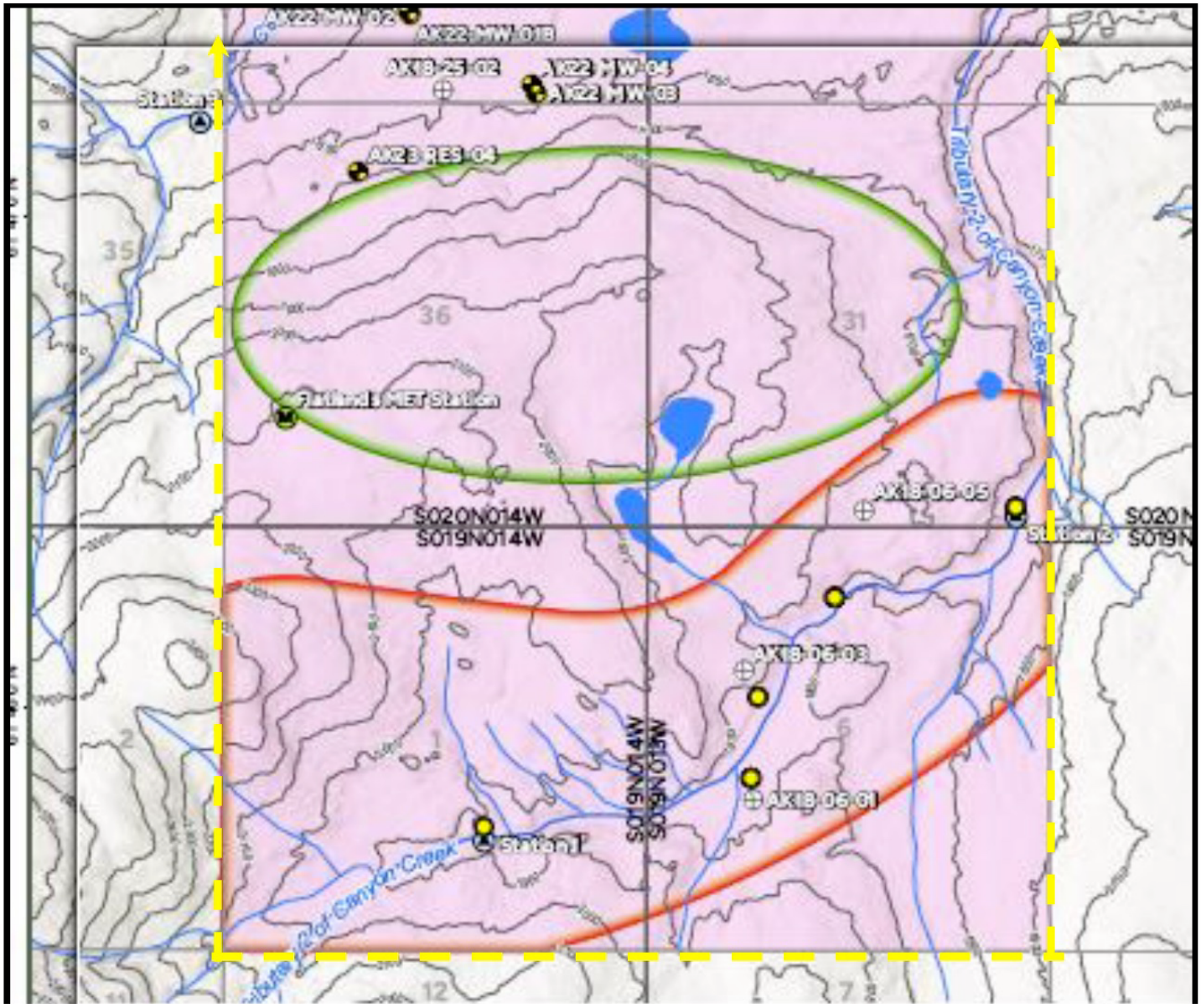
FLATLANDS ENERGY PROSPECT
MATANUSKA-SUSITNA BOROUGH, ALASKA

Drawing: SITE MAP

Date: January 2025 | Scale: 1" = 2,000 Feet | Fig. No. 1

File Name: F:\Flatlands\REC_Site_Map_v2 | Project No. 106.021326.00001

Southern Half of Exploration Area



Key on previous page

Attachment E
SDS Information

The SDS information is not currently available but will be submitted separately.

Attachment F
Letter of Ownership and Right of Entry

Note: This resolution is dated. An updated resolution will be submitted separately.

RESOLUTIONS OF THE BOARD OF DIRECTORS

of

FLATLANDS ENERGY CORPORATION

BE IT RESOLVED:

1. That the Coal Exploration Application for 2022-2024 with respect to coal lease ADL 553937 is hereby approved; and

2. THAT the Corporation is directed to take such further actions as may be required to finalize the Application and to complete the approval process administered by the Department of natural resources; and

3. THAT the Corporation may make application for any other associated permits, approvals and/or other government approvals and pay such bonds, consulting fees or other requirements as may be appropriate to carry out the exploration program for coal lease ADL 553937; and

4. THAT any officer or director be and is here by authorized and directed to do such acts or things as may be necessary or desirable to give effect to the foregoing; and

5. THAT these resolutions may be signed by the directors in as many counterparts as may be necessary, each of which so signed will be deemed to be an original (and each signed copy sent by electronic facsimile transmission will be deemed to be an original) and such counterparts together will constitute one and the same instrument and notwithstanding the date of execution will be deemed to bear the date set forth below.

These Resolutions are hereby passed and consented to by the signature of the Corporation as at June 7, 2022.

Robert Power - Director

Hugh Bowman - Director

Flatlands Board Resolution – 2022-2023 Field Season

Attachment G
Climate and Weather Information

The nearest climate station is in Skwentna. Information from the U.S. Climate Data website[10] provides the information below (website visited January 5, 2025). However, Skwentna is at approximately 150 feet above sea level while the exploration area is mostly between 1,500 and 2,000 feet above sea level. Therefore, the project area is likely between 4 and 13 degrees colder than the information below based on typical adiabatic lapse rates of 1°F/300 feet (saturated air) and 2°F/300 feet (saturated air).

Climate Skwentna - Alaska

	Jan	Feb	Mar	Apr	May	Jun
Average high in °F	18	25	35	46	59	68
Average low in °F	1	4	11	24	35	44
Av. precipitation in inch	2.31	2.22	1.02	1.06	1.12	1.26
Av. snowfall in inch	18	18	10	6	0	0

	Jul	Aug	Sep	Oct	Nov	Dec
Average high in °F	70	66	56	40	24	20
Average low in °F	48	45	36	24	8	4
Av. precipitation in inch	2.24	3.46	4.25	3.21	2.21	3.50
Av. snowfall in inch	0	0	0	11	22	34

Climate data for Skwentna, Longitude: -151.217, Latitude: 61.9772

[10] https://www.usclimatedata.com/climate/skwentna/alaska/united-states/usak0226

Attachment H
Fuel Handling Plan

Fuel for the exploration project will be brought in by helicopter in 55-gallon drums. Up to 6 drums will be stored at a drill site, possibly fewer. The drills and helicopters will use Jet-A diesel fuel. Fuel will be handled and stored according to the procedures below. Each drill site will have a spill response kit on-site.

Fuel Containment and Handling

(6) 55-gallon drums containing Jet-A diesel will be placed in secondary containment capable of storing 110% of total volume. Appropriate secondary containment and/or diversionary structures or equipment will be provided for all oil (fuel) handling containers, equipment, and transfer areas to prevent a discharge to surface waters. The entire secondary containment system, including walls and floors, is capable of containing oil (fuel) and is constructed so that any discharge from a primary containment system, such as tank or pipe, will not escape the containment system before cleanup occurs. The following methods may be deployed for secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil (fuel); (2) manufactured containments; (3) Sorbent materials. Inspections will be conducted daily or when in use; entire system to be visually checked by fueling attendant when fuel is delivered to site or transferred to equipment for signs of wear, frays, damage, leaks before fuel transfer is to begin.

Spill Response

In general, the following steps are taken:
1) Eliminate potential for sparks sources;
2) If possible and safe to do so, identify and shut down source of the discharge to stop the flow;
3) Contain the discharge with sorbents, berms, fences, sandbags or other material;
4) Contact project manager;
5) Contact regulatory authorities and the response organization; and
6) Collect and dispose of recovered products according to regulation.

Alaska Department of Environmental Conservation, Spill Prevention and response has the following notification requirements;

Oil/Petroleum Releases

To water: any release of oil/fuel to water must be reported as soon as the person has knowledge of the discharge.

To land: any release to land of oil/fuel in excess of 55 gallons must be reported as soon as the person has knowledge of the discharge. Any release of oil in excess of 10 gallons but less than 55 gallons must be reported within 48 hours after a person has knowledge of the discharge.

To impermeable secondary containment areas: Any release of oil/fuel in excess of 55 gallons must be reported within 48 hours after the person has knowledge of the discharge.

For the purpose of establishing appropriate response procedures, this plan classifies discharges as either “minor” or “major” depending on the volume and characteristics of the material released.

Response to a Minor Discharge

A minor discharge is defined as one that poses no significant harm (or threat) to human health and safety or to the environment. Minor discharges are generally those where:
The quantity of product discharged is small (e.g., may involve less than 10 gallons of oil);
Discharged material is easily stopped and controlled at the time of the discharge;

Discharge is localized near the source;
Discharged material is not likely to reach water;
There is little risk to human health or safety; and
There is little risk of fire or explosion.

Minor discharges can usually be cleaned up by project personnel. The following guidelines apply:
Immediately notify the project manager
Under the direction of the project manager, contain the discharge with discharge response materials and equipment.
Place discharge debris in properly labeled waste containers.
If discharge is more than the threshold for the State of Alaska mandatory reporting; such notification will be made to the Alaska Department of Environmental Conservation

Response to a Major Discharge

A major discharge is defined as one that cannot be safely controlled or cleaned up by project personnel, such as when:
The discharge is large enough to spread beyond the immediate discharge area
The discharge enters water
The discharge requires special equipment or training to clean up;
The discharged materials pose a hazard to human health or safety; or
There is a danger of fire or explosion.
In the event of a major discharge, the following guidelines apply:
All personnel should evacuate the discharge site to a safe distance;
If the project manager is not on-site, the senior on-site person notifies the project manager of the discharge and has authority to initiate notification and response.