



Linc Energy Operations, Inc.
3000 "C" Street, Suite #103
Anchorage, Alaska 99503

August 22, 2011

Alaska Oil and Gas Conservation Commission
333 West 7th Ave., Suite 100
Anchorage, Alaska 99501

RE: Application for Permit to Drill
Well: TYEX 01 (Underground Coal Gasification Stratigraphic Test Core)
TRS: SWSW, T13N, R11W, Section 25, Seward Meridian

Dear Chairman Seamount,

Linc Energy Operations Inc. hereby applies for a Permit to Drill an onshore Underground Coal Gasification stratigraphic test well approximately 4 miles due west of the town of Beluga on the west side of Cook Inlet. The well will be cored on Alaska Mental Health Trust Land under the authority of a current Underground Coal Gasification (UCG) Exploration License (Kenai License MHT#9200462) held by Linc Energy Operations Inc. and governed by the Coal Regulatory Group at the Department of Natural Resources.

Linc plans to commence operations on approximately September 30th, 2011, employing the Tester Simco 4000 Drilling rig to drive conductor casing to approximately 300', and the Boart Longyear coring rig to core approximately 3500'. A diverter system will be installed on the Boart Longyear coring rig per Alaska Oil and Gas Conservation Commission ("AOGCC") well safety requirements.

Please find attached information as required by 20 AAC 25.005 (a) and (c) for your review. Pertinent information attached to this application includes the following:

- 1) Form 10-401 Application for Permit to Drill
- 2) A plat showing the surface location of the well
- 3) Geologic Discussion, Anticipated Formation Tops

- 4) Shallow Gas Hazard Evaluation
- 5) General Well Prognosis, Waste Management, Logging Program
- 6) Proposed Operations Summary
- 7) Drilling Time versus Depth Plot
- 8) Proposed Wellbore Diagram
- 9) Description of the Well Control Equipment to be Used
- 10) Description of Rig Layout & Pit System
- 11) Drilling Fluid Program

The following are Linc Energy designated contacts for reporting responsibilities to the Commission:

| | |
|---|---|
| 1) Completion Report (20 AAC 25.070) | Corri Feige, Alaska Project Manager (907) 868-8660 |
|---|---|

| | |
|--|---|
| 2) Geologic Data and Logs (20 AAC 25.071) | Corri Feige, Alaska Project Manager (907) 868-8660 |
|--|---|

The AOGCC is requested to treat as confidential all information in the Application for Permit to Drill (except the Public Information Copy) as information in these documents is drawn from research and data proprietary to Linc.

If you have any questions or require further information, please contact either Corri Feige, General Manager – Alaska at (907.868.8660) or Nick Scales, Drilling Operations Manager at (907.868.8660).

Sincerely,

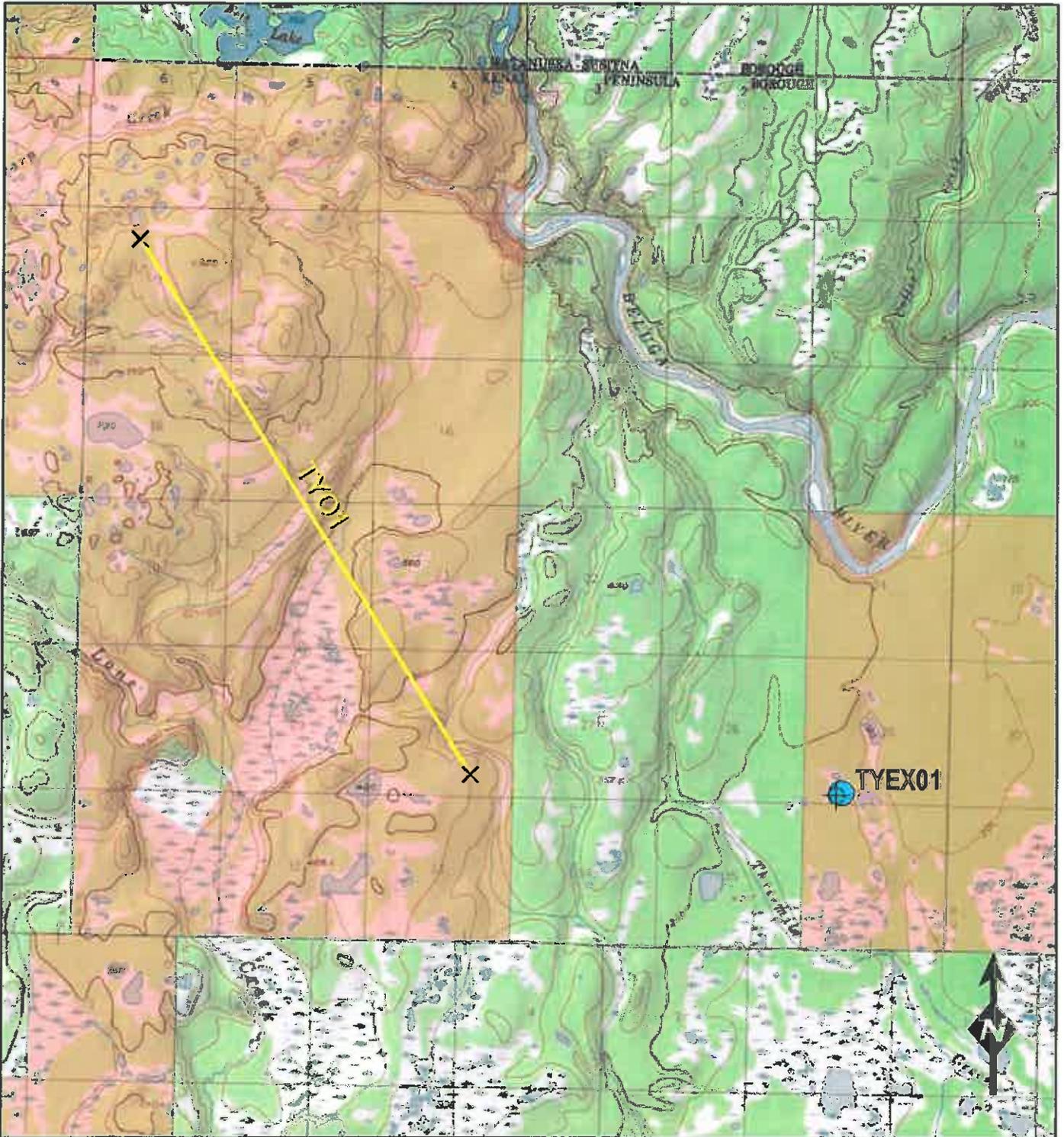


Corri A. Feige
Alaska General Manager

STATE OF ALASKA
ALASKA OIL AND GAS CONSERVATION COMMISSION
PERMIT TO DRILL

20 AAC 25.005

| | | | | | | | | | | |
|---|-----------|---|---|--|---|--|---------------------------------|--|---------------------|--|
| 1a. Type of Work: Drill <input checked="" type="checkbox"/> Redrill <input type="checkbox"/> Re-entry <input type="checkbox"/> | | 1b. Current Well Class: Exploratory <input type="checkbox"/> Stratigraphic Test <input checked="" type="checkbox"/> Service <input type="checkbox"/> Multiple Zone <input type="checkbox"/> | | Development Oil <input type="checkbox"/> Development Gas <input type="checkbox"/> Single Zone <input type="checkbox"/> | | 1c. Specify if well is proposed for: Coalbed Methane <input type="checkbox"/> Gas Hydrates <input type="checkbox"/> Shale Gas <input type="checkbox"/> | | | | |
| 2. Operator Name: Linc Energy Operations, Inc. | | | 5. Bond: Blanket <input checked="" type="checkbox"/> Single Well <input type="checkbox"/> Bond No. number pending | | 11. Well Name and Number: TYEX 01 | | | | | |
| 3. Address: 3000 C Street, Suite 103, Anchorage, AK 99503 | | | 6. Proposed Depth: MD: 3500' TVD: 3500' | | 12. Field/Pool(s): Exploratory | | | | | |
| 4a. Location of Well (Governmental Section): Surface: 233' FSL, 1142' FWL, Sec 25-13N-11W, Seward Meridian Top of Productive Horizon: Total Depth: 3500' | | | 7. Property Designation: Alaska Mental Health Trust | | 13. Approximate Spud Date: 9/30/2011 | | | | | |
| | | | 8. Interior Region UGC Exploratory License: MHT#9200461 | | 14. Distance to Nearest Property: 1142 ft | | | | | |
| | | | 9. Acres in Property: 25,374.88 acres | | 15. Distance to Nearest Well Within Pool: 1493 ft | | | | | |
| 4b. Location of Well (State Base Plane Coordinates): Surface: AKSP Lat: 2625574.317 AKSP Long: 1432727.750 Zone 4 | | | 10. KB Elevation (Height above GL): 210 ft | | | | | | | |
| 16. Deviated wells: Kickoff depth: Maximum Hole Angle: 0 degrees | | | 17. Maximum Anticipated Pressures in psig (see 20 AAC 25.035) Downhole: _____ Surface: _____ | | | | | | | |
| 18. Casing Program: | | Specifications | | | | Top - Setting Depth - Bottom | | Cement Quantity, c.f. or sacks | | |
| Hole | Casing | Weight | Grade | Coupling | Length | MD | TVD | MD | TVD | (including stage data) |
| driven | 6" | 18.97 | A53 | BW | 300' | 0' | 0' | 300' | 300' | driven |
| 3.77" | na | | | | 3500' | 0' | 0' | 3500' | 3500' | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 19. PRESENT WELL CONDITION SUMMARY (To be completed for Redrill and Re-Entry Operations) | | | | | | | | | | |
| Total Depth MD (ft): | | Total Depth TVD (ft): | | Plugs (measured): | | Effect. Depth MD (ft): | | Effect. Depth TVD (ft): | | Junk (measured): |
| Casing | | Length | | Size | | Cement Volume | | MD | | TVD |
| Conductor/Structural | | | | | | | | | | |
| Surface | | | | | | | | | | |
| Intermediate | | | | | | | | | | |
| Production | | | | | | | | | | |
| Liner | | | | | | | | | | |
| Perforation Depth MD (ft): | | | | | | Perforation Depth TVD (ft): | | | | |
| 20. Attachments: | | Filing Fee <input type="checkbox"/> | BOP Sketch <input type="checkbox"/> | Drilling Program <input checked="" type="checkbox"/> | Time v. Depth Plot <input checked="" type="checkbox"/> | Shallow Hazard Analysis <input checked="" type="checkbox"/> | | | | |
| | | Property Plat <input checked="" type="checkbox"/> | Diverter Sketch <input checked="" type="checkbox"/> | Seabed Report <input type="checkbox"/> | Drilling Fluid Program <input checked="" type="checkbox"/> | 20 AAC 25.050 requirements <input type="checkbox"/> | | | | |
| 21. Verbal Approval: Commission Representative: _____ Date _____ | | | | | | | | | | |
| 22. I hereby certify that the foregoing is true and correct. | | | | | | | | | | Contact Corri Feige 907.868.8660 |
| Printed Name | | Corri Feige | | | Title | | General Manager - Alaska | | | |
| Signature | |  | | | Phone | | (907) 868-8660 | | Date 8/25/11 | |
| Commission Use Only | | | | | | | | | | |
| Permit to Drill Number: | | API Number: 50- | | | Permit Approval Date: | | | See cover letter for other requirements. | | |
| Conditions of approval If box is checked, well may not be used to explore for, test, or produce coalbed methane, gas hydrates, or gas contained in shales: <input type="checkbox"/> | | | | | | | | | | |
| Other: _____ | | | | | | | | | | |
| | | | | Samples req'd: Yes <input type="checkbox"/> No <input type="checkbox"/> | | Mud log req'd: Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| | | | | H ₂ S measures: Yes <input type="checkbox"/> No <input type="checkbox"/> | | Directional svy req'd: Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| DATE: _____ | | | | | | | | | | APPROVED BY THE COMMISSION COMMISSIONER |



State Plane, Alaska Zone 4, NAD83
 Seward Meridian
 USGS Quads: Tyonek A-4, B-4



-  Drill Site Location
-  Water Source
-  Seismic Lines
-  LINC UCG Exploration License Acreage

**TYONEK LICENSE AREA
 DRILLSITE AND WATER
 SOURCE LOCATION**

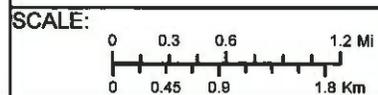


FIGURE:
3

Exploration Drill Hole TYEX01

Linc Energy Operations Inc.

Area Geologic Description

TYEX01 is located in the SW1/4 of Sec.25, T13N, R13W of the Seward Principal Meridian. The Tertiary sedimentary rocks, which can host the coal seams of potential Underground Coal Gasification (UCG) interest, are continental in origin derived from alluvial fans that deposited sediments into the forearc basin. These Tertiary sedimentary rocks belong to the Kenai Group which are subdivided into various formations. From top to bottom they include the Sterling Formation, Beluga Formation, Tyonek Formation, Hemlock Conglomerate and West Foreland Formation.

The contact between unconsolidated Quaternary sediments and the underlying Sterling Formation is difficult to recognize as is the basal contact of the Sterling Formation. The Sterling Formation is uppermost Miocene to Pliocene in age consisting of weakly lithified massive sandstone, conglomeratic sandstone and interbedded siltstone and claystone. The unit includes interbedded lignitic coals typically less than 3 feet thick in its upper part, but may be as much as 10 feet thick in its lower part. However, a review of oil and gas well logs within the Cook Inlet basin suggests that individual coals in the order of 40 feet thick might occur in the Sterling Formation.

The Miocene Beluga Formation consists of nonmarine, interbedded, weakly lithified sandstone, siltstone, carbonaceous shale, coal and minor volcanic ash. According to some, a distinctive feature of the Beluga Formation is the lack of massive bedded sandstones and thick coal beds that characterize the underlying Tyonek Formation. However, lignitic to subbituminous coal seams as much as 13 feet thick can occur in the upper part of the unit.

The uppermost Oligocene to middle Miocene Tyonek Formation consists of massive bedded sandstones, siltstone and coal. The Tyonek Formation is characterized by the massive bedded sandstone beds and numerous lignitic to subbituminous coal beds, some of which are as much as 50 to 60 feet thick. Because of the thick nature of the coals the Tyonek Formation is the main exploration target. Contact with the overlying Beluga Formation is believed to be a disconformity where sandstone beds and coal beds become markedly thinner. Its basal contact is considered conformable with the underlying Hemlock Conglomerate. The West Foreland Formation occurs beneath the Hemlock Conglomerate.

Volcanic rocks affecting Tertiary coal-bearing units span from Eocene through Holocene age. Quaternary volcanic rocks exist in portions of the Cook Inlet Basin, many derived from historically active volcanoes. Similarly, Tertiary volcanic rocks occur within or in proximity of the Exploration Concessions and have been intercepted in some oil and gas wells.

Drill hole Geologic Description

It is anticipated that TYEX01 will encounter unconsolidated Quaternary sediments, the Beluga and Tyonek Formations with coals of interest in the Tyonek Formation. The Hemlock Formation will not be penetrated.

Anticipated Coal Targets

Anticipated coals of interest are based on Phillips Petroleum Company's North Tyonek State 58838 No. 1, API # 50283200419500 located approximately ¼ mile NW of TYEX01. Research was conducted of the mudlog and the electric logs of the wildcat well drilled in 1973 and that of Superior Oil Company Three Mile Creek #1, API # 5028320004000 approximately 1.5 southwest of exploration drill hole TYEX01. Based on the offsets the following table describes the tops and thicknesses of the coals anticipated in Linc Energy Operations Inc. TYEX01.

| Linc Energy Operations Inc. TYEX01 anticipated coal tops | |
|--|---------------------------------|
| Anticipated Seam Depth (FTBGS) | Anticipated Seam thickness (FT) |
| 1974 | 14 |
| 2011 | 12 |
| 2083 | 15 |
| 2140 | 10 |
| 2443 | 12 |
| 2526 | 19 |
| 2750 | 28 |
| 3434 | 20 |
| 3500 | Estimated Total Depth |

FTBGS -Feet below ground surface

FT - Feet

Shallow Gas Hazard Analysis

Based on the aforementioned mudlogs of North Tyonek state 58838 No. 1 and Three Mile Creek #1, total gas associated with coals was very minimal. Total gas based on 100 units equaling the equivalent of 2 percent methane had a high reading of approximately 70 units while drilling with a mud weight of 9.0



TYEX 01 General Prognosis

Well Name: TYEX 01
Surface Location: Section 25, T13N, R11W, SM
Bottom hole Location: Same (vertical hole)
Planned TD: 3,500' MD / TVD

Well Summary

A 6" conductor will be driven to 300' prior to the coring rig moving in. The cellar will be grouted with concrete to stabilize the conductor casing. Rotary coring operations will cut approximately 3,500' of 2.50" core using a 10' wireline retrievable core barrel with a 3.77" OD core bit.

Drilling Fluid Management

A gel freshwater mud system provided by MISWACO will be used for the coring operations from 300' to TD. At the end of coring operations the settling pit will be reclaimed in accordance with the Alaska Surface Coal Mining Control and Reclamation Act AS 27.21.

Waste Management

All waste including drill cuttings will be handled in accordance with the Alaska Surface Coal Mining Control and Reclamation Act AS 27.21 as governed by the Coal Regulatory Group of the Alaska Department of Natural Resources.

Well Trajectory and Deviation Survey

The TYEX 01 is planned to be a vertical well.

Formation Tops and Casing Depths

See attached geologic summary. No production casing is planned at this time.

Logging Program

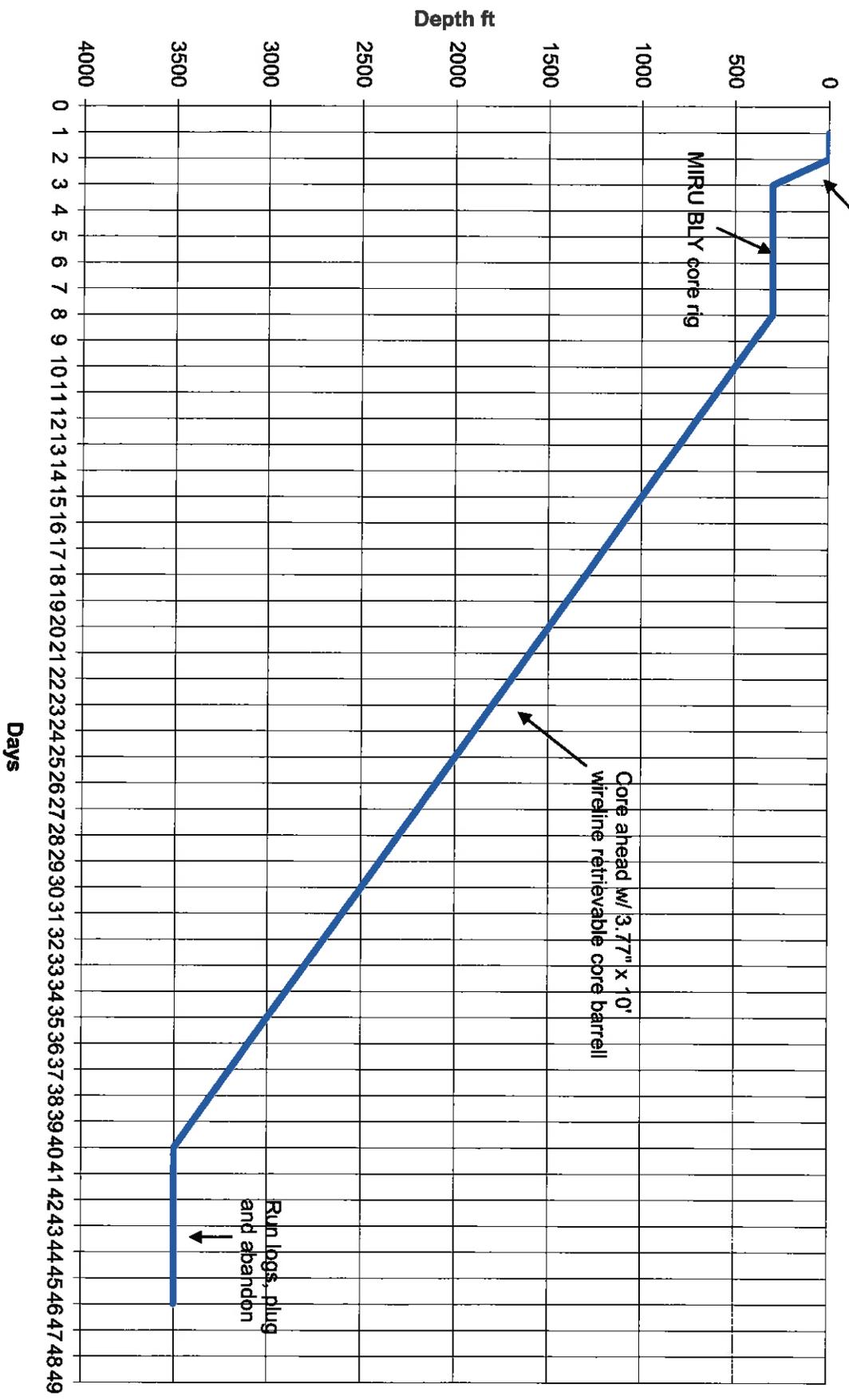
| | |
|--------------|--------------------------------------|
| 0' – 300' | No open-hole logs |
| 300' – 3500' | GR/Resistivity/Neutron Density/Sonic |

Proposed Operations Summary

1. MIRU Tester Simco Drilling conductor rig
2. Drive 6" conductor pipe to +/-300'
3. Hand mix cement and grout conductor cellar to stabilize conductor pipe at surface
4. RDMO Tester Drilling conductor rig
5. MIRU Boart Longyear coring rig, dig settling pit
6. Notify AOGCC of start up, perform diverter drill
7. MU 3.77" core bit, 2.50" coring assembly
8. Core ahead using 10' wireline retrievable core barrel assembly from 300' to 3500'
9. RU wireline, run open hole logs including GR/Resistivity/Neutron Density/Sonic
10. Plug and abandon per AOGCC requirements, RDMO core rig

MIRU Tester Drilling, drive
conductor pipe to 300'

TYEX 01 Days vs Depth



PROPOSED WELLBORE DIAGRAM

TYEX 01

Linc Energy Operations, Inc.

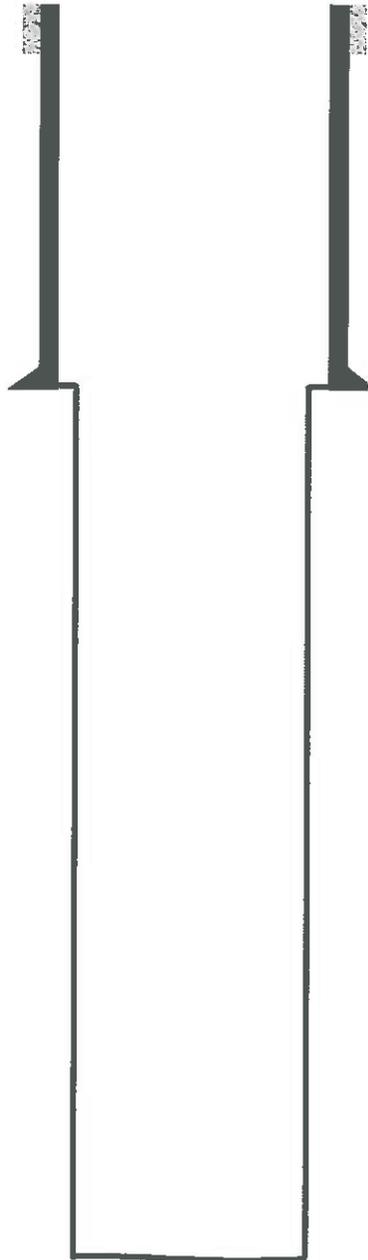
Section 25-13N-11W, SM

API #: _____

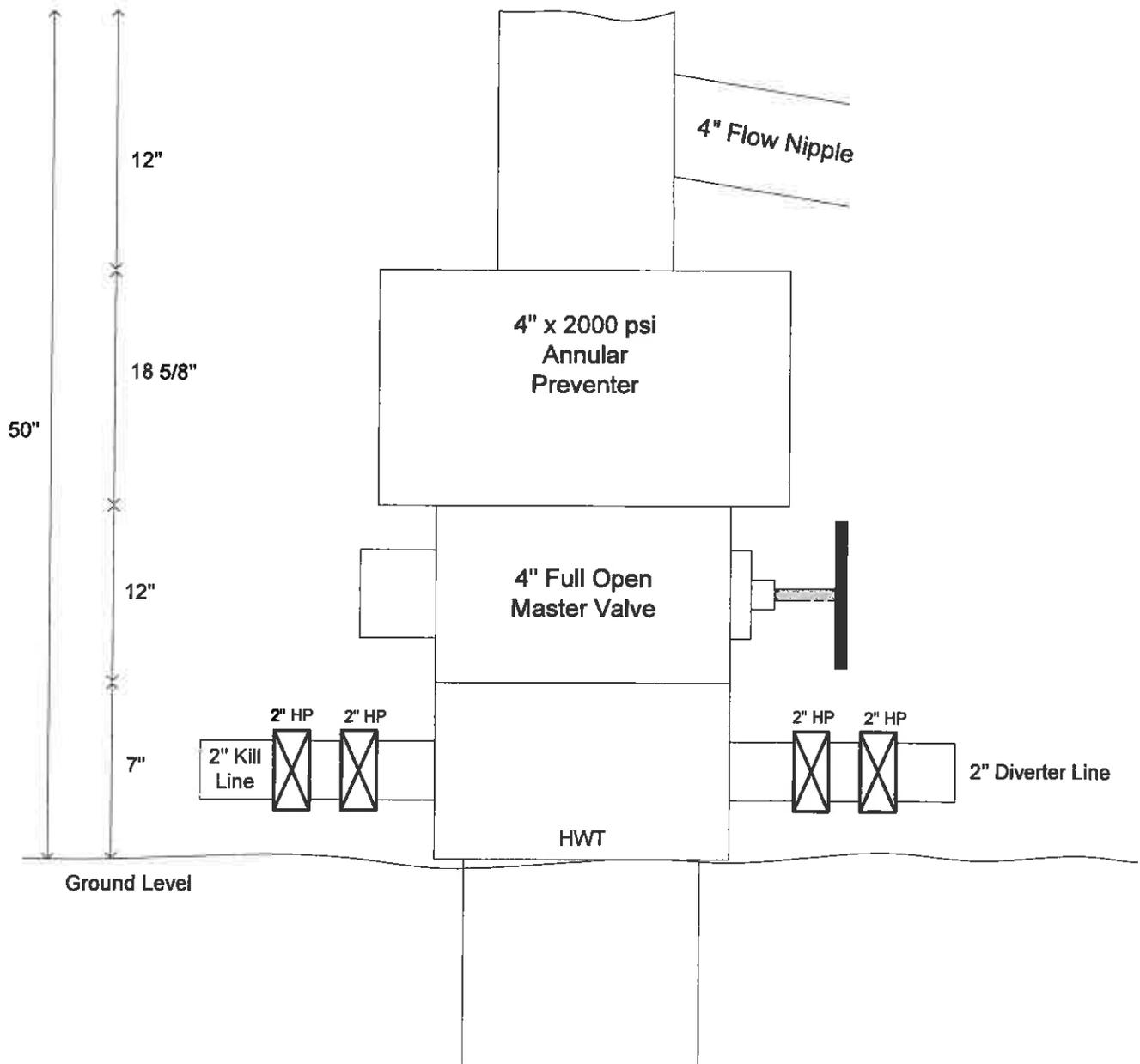
Cellar & conductor annulus grouted at surface to stabilize conductor pipe

6" conductor casing driven to refusal @ +/-300'

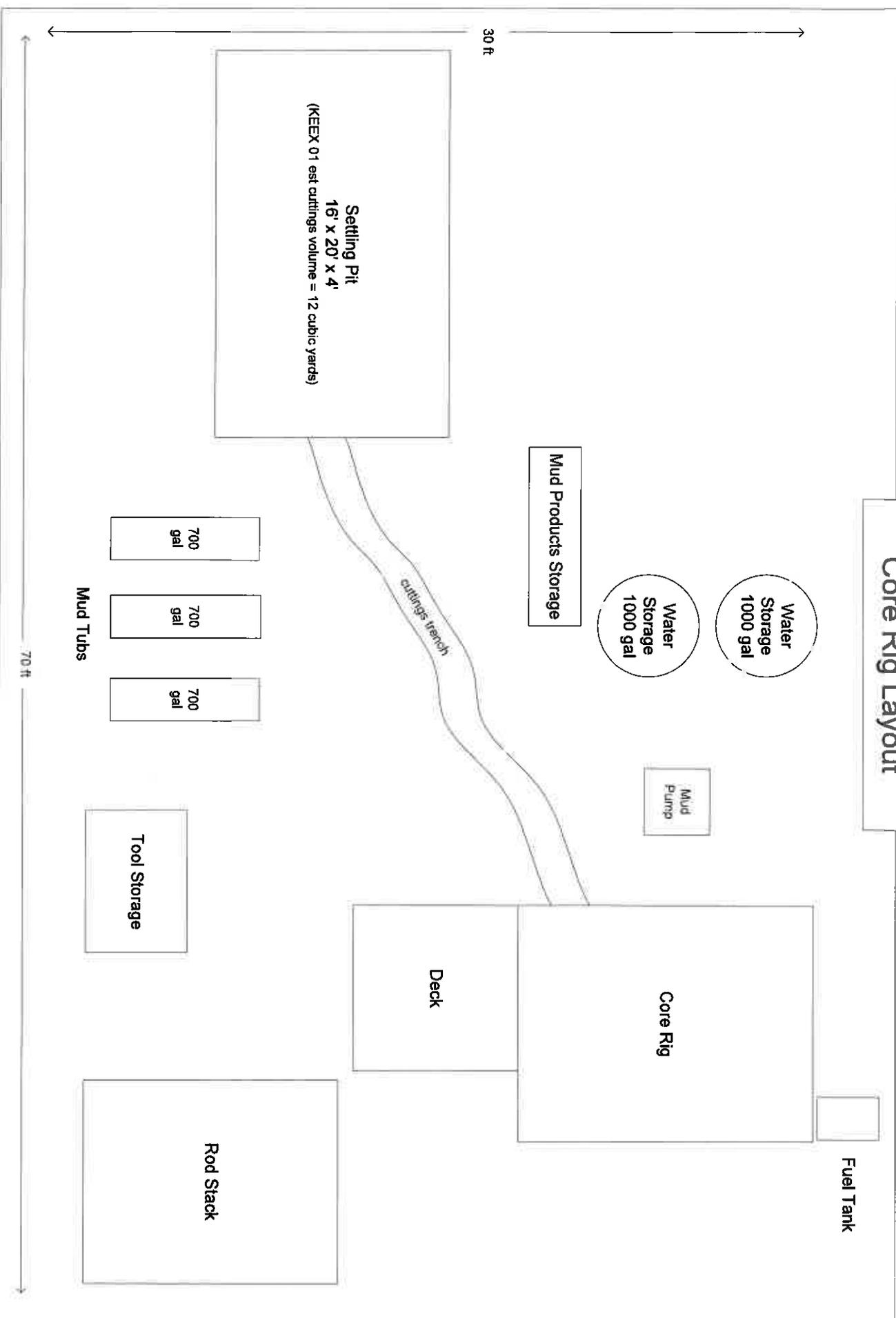
3.77" Core Hole to +/- 3500'
* 2.50" x 10' Core Barrel



Proposed Diverter Layout



Core Rig Layout



TYEX 01 Proposed Drilling Fluid Program

