ENSTAR Natural Gas Company, LLC
P. O. Box 190288
Anchorage, Alaska 99519-0288
(907) 334-7911

HAND DELIVERED

May 7, 2026

John Crowther, Commissioner
Alaska Department of Natural Resources
550 W. 7th Ave, Suite 1100
Anchorage, AK 99501-3560

Re: Application for Gas Storage Lease
Kenai Loop Gas Field (KLGF)

Dear Commissioner Crowther:

ENSTAR Natural Gas Company, LLC ("ENSTAR") hereby submits its application for a Gas Storage Lease within the Tyonek Pool of the Kenai Loop Gas Field ("KLGF") pursuant to AS 38.05.180(u), 11 AAC 83.500-520 and 11 AAC 88.105. Enclosed within this application are the prescribed filing fee of $500.00,[1] three copies of a proposed form of storage lease,[2] and supporting data demonstrating the feasibility of the proposed storage project.[3] On April 17, 2026, ENSTAR and the current KLGF operator, AIX Energy LLC ("AIX"), executed a Purchase and Sale Agreement to acquire AIX's existing assets and gas production leases.

This application is for all lands to which the State of Alaska holds interest within the storage boundary defined in ENSTAR's enclosed April 30, 2026 application to the Alaska Oil and Gas Conservation Commission ("AOGCC") for a Storage Injection Order. These lands include:

Township 6 North, Range 11 West, Seward Meridian:
Section 32 – E1/2 (320 acres)
Section 33 – Surveyed Lots 5, 6, 8, 9, 13-40 inclusive, E1/2 SW1/4 SE1/4 and W1/2 SE1/4 SE1/4 (120 acres)
Section 34 – Surveyed Lots 39, 40, 52, 53, 55, 57-59 inclusive, 79-88 inclusive, and 111-116 inclusive (60 acres)

Containing approximately 500 acres, more or less

Since its discovery, the Tyonek Pool has produced approximately 28.6 billion standard cubic feet ("Bcf") of gas from two wells and approximately 13,000 standard barrels of water. The reservoir is estimated to have originally contained 32.8 Bcf of gas in place with limited pressure support from an active aquifer based on repeated pressure surveys in all the wells. ENSTAR proposes utilizing existing wells (KL 1-1, KL 1-3, and KL 1-4) as gas storage service wells and drilling additional wells in the future to meet daily injection and withdrawal demand. The proposed project will require new compressors to achieve higher injection pressures and an expansion of the Kenai Loop pad to allow for new injection and withdrawal facilities. ENSTAR proposes operating the field up to the discovery pressure of 5,395 pounds per square inch ("psi").

The undersigned hereby requests that each file contained in the USB drive be held confidential pursuant to AS 38.05.035(a)(8)(C).

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[1] 11 AAC 05.110(d)(3)(K).
[2] 11 AAC 83.520(1).
[3] 11 AAC83.520(2).

ENSTAR
Natural Gas Company

Please include the following contacts on correspondence regarding this application:

Lindsay Hobson, ENSTAR General Counsel
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907-334-7810

Nathan Burke, ENSTAR Senior Manager Infrastructure & Planning
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Sterling Lopez, ENSTAR Supervisor ROW & Permitting
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907-334-7911

If you have questions regarding the application, feel free to reach out. For technical questions, please contact Nathan Burke directly.

Sincerely,

Lindsay Hobson
ENSTAR Natural Gas Company
Vice President and General Counsel
Lindsay.hobson@enstarnaturalgas.com
907-334-7810

Enclosures:
- $500 filing fee
- Storage Lease Form (three copies)
- ENSTAR SIO Application to the AOGCC
- USB Drive [Confidential]
- 17x34 wall maps showing KLGF storage boundary
- 17x34 wall map of structure

cc:
- Allen Eddy, Petroleum Land Manger, Division of Oil & Gas
- AOGCC
- Regulatory Commission of Alaska

Application for Gas Storage Injection Order
Kenai Loop Gas Storage Project
Kenai, Alaska

April 2026

Prepared for

ENSTAR
Natural Gas Company

ENSTAR Natural Gas Company
5151 Fairbanks Street
Anchorage, Alaska 99503

Prepared by

ASRC CONSULTING & ENVIRONMENTAL
AN ASRC ENERGY COMPANY

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Revision History and Approval

Rev. No.	Date	Client	Author	Peer Reviewer	Technical Editor	QC Reviewer	PM	Notes

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Table of Contents

List of Tables

TABLES

List of Attachments

Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
AAC	Alaska Administrative Code
ACES	ASRC Consulting & Environmental Services, LLC
AIX	AIX Energy, LLC
AOF	absolute open flow
AOGCC	Alaska Oil and Gas Conservation Commission
bbl	barrel
bbl/d	barrels per day
Bcf	billion standard cubic feet
bwpd	barrels of water per day
DP	pressure change (ΔP)
DST	drill stem test
ENSTAR	ENSTAR Natural Gas Company
GIP	gas in place
GPS	Global Positioning System
GR	gamma ray
GWC	gas–water contact
HCPV	hydrocarbon pore volume
IGIP	initial gas in place
KLGF	Kenai Loop Gas Field
KNPL	Kenai–Nikiski Pipeline
LWD	logging while drilling
Ma	million years
MD	measured depth
mD	millidarcies
MIT	mechanical integrity test
MMscf/d	million standard cubic feet per day
Mscf/d	thousand standard cubic feet per day
P/Z	pressure divided by gas compressibility factor
PBU	pressure build-up
ppm	parts per million

psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch gauge
SCADA	Supervisory Control and Data Acquisition
SIBHP	shut-in bottomhole pressure
SITHP	shut-in tubing head pressure
SM	Seward Meridian
SSSV	subsurface safety valve
THP	tubing head pressure
TVD	true vertical depth
TVDSS	true vertical depth subsea
WHP	wellhead pressure
Z	gas compressibility factor
ΔP	pressure change

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Introduction

ENSTAR Natural Gas Company, LLC ("ENSTAR") proposes to convert the nearly depleted Kenai Loop Gas Field (KLGF) in Kenai, Alaska, to an underground natural gas storage reservoir and facility. Attachment 1 is a regional map showing the location of the KLGF relative to other fields in the Cook Inlet area. Since its discovery, the Tyonek Pool has produced approximately 28.6 billion standard cubic feet (Bcf) of gas from two wells and approximately 13,000 standard barrels of water produced. The reservoir is estimated to have originally contained 32.8 Bcf of gas in place with limited pressure support from an active aquifer based on repeated pressure surveys in all the wells. ENSTAR proposes utilizing existing wells (KL 1-1, KL 1-3, and KL 1-4) as gas storage service wells and drilling additional wells in the future to meet daily injection and withdrawal demand. The proposed project will require new compressors to achieve higher injection pressures and an expansion of the Kenai Loop pad to allow for new injection and withdrawal facilities. ENSTAR proposes operating the field up to the discovery pressure of 5,395 pounds per square inch (psi).

A 20 AAC 25.252(c)(1) – Plat Information

Regulation 20 AAC 25.252 (c)(1) requires a plat showing the location of all proposed disposal and storage wells, abandoned or other unused wells, production wells, dry holes, and any other well within one-quarter mile of each proposed disposal or storage well.

Attachment 2 is the proposed storage boundary map illustrating the Tyonek Pool reservoir in red outline, locations of existing and proposed wells, and existing pad area. The proposed storage boundary is highlighted in purple and represents the estimated areal extent of the Tyonek reservoir, including a one-quarter (1/4) mile section "buffer zone" surrounding the periphery of the storage reservoir.

Legal Description of Proposed Storage Boundary:

Township 6 North, Range 11 West, Seward Meridian

Section 27:	SW1/4; W1/2 NW1/4
Section 28:	E1/2; SW1/4; S1/2 NW1/4; NE1/4 NW1/4
Section 29:	SE1/4 NE1/4; E1/2 SE1/4; SW1/4 SE1/4
Section 32:	E1/2
Section 33:	ALL
Section 34:	NW1/4 SW1/4; N1/2 NW1/4; SW1/4 NW1/4

B 20 AAC 25.252(c)(2) – Operators/Surface Owners

Regulation 20 AAC 25.252(c)(2) requires a list of all operators and surface owners within one-quarter mile radius of each proposed disposal or storage well.

A surface ownership map within the proposed storage boundary and within one-quarter mile of the proposed well pad is included as Attachment 3. Surface owners within the proposed storage boundary are listed in Attachment 4. Surface owners within one-quarter mile radius of the proposed well pad are listed in Attachment 5. ENSTAR will notify all listed surface owners about the storage project. No other operators exist within one-quarter mile of the proposed well pad.

Subject to the execution of definitive agreements and satisfaction of certain conditions, ENSTAR anticipates acquiring the KLGF, including the Tyonek reservoir, from AIX Energy LLC (AIX) in Q4 2026.

C 20 AAC 25.252(c)(3) – Affidavit

Regulation 20 AAC 25.252 (c)(3) requires an affidavit showing that the operators and surface owners within a one-quarter mile radius have been provided a copy of the application for disposal or storage;

Affidavit of Lindsay W. Hobson

STATE OF ALASKA
THIRD JUDICIAL DISTRICT

I, Lindsay W. Hobson, declare and affirm as follows:

1. I am over 19 years of age. I am employed by ENSTAR Natural Gas Company, LLC. as its Vice President and General Counsel. I have personal knowledge of the matters set forth in this affidavit.

2. On April 30, 2026, the surface owners/operators listed in Section B were provided a copy of this permit application.

DATED at Anchorage, Alaska, this 30th day of April, 2026.

Lindsay W. Hobson
Vice President and General Counsel
ENSTAR Natural Gas Company, LLC

Subscribed and affirmed before me at Anchorage, Alaska on April 30, 2026.

CHELSEA N. GUINTU
My Commission Expires
NOTARY PUBLIC
Nov 1, 2029
STATE OF ALASKA

Notary Public in and for the
State of Alaska
My commission expires: 11/1/2029

D 20 AAC 25.252(c)(4) – Formation Information

Regulation 20 AAC 25.252 (c)(4) requires the name, description, depth, and thickness of the formation into which fluids are to be disposed or stored and appropriate geological data on the disposal or storage zone and confining zones, including lithologic descriptions and geologic names.

1. Description of Operation

ENSTAR proposes to inject natural gas into the KLGF utilizing three existing injection/withdrawal wells in the geologic marker sands of 9700 and 10000 zones. Storage and well facilities would be located east of Marathon Road, between Commercial Loop Road and Daubenspeck Road within T06N, R11W, Section 33, Seward Meridian (SM), on property owned by the City of Kenai. As enhanced storage service is requested, ENSTAR will seek authorization to drill and install additional injection/withdrawal wells and compression to meet demand and will apply for all regulatory approvals prior to major facility and well expansion.

2. Storage Zones

The proposed KLGF intervals reside in the Upper Tyonek Formation, which are structurally bound by a small four-way closure on the same structural trend as the Cannery Loop Field to the south. The proposed gas storage interval is from 8,600 feet – 10,500 feet true vertical depth subsea ("TVDSS"). Within the Upper Tyonek there are two producing reservoir zones. The upper reservoir zone is referred to as the "9700 zone" and the lower zone as the "10000 zone" in the KLGF. The two reservoir zones are bound by thick 20–30-foot coal seams at the top and base of the zones, which provide a seal within the four-way structural closure. The net reservoir interval thickness averages about 44 feet in 9700 zone and 65 feet in 10000 zone. The reservoir is comprised of fluvial channel sandstones with interbedded silty sands and shales that appear to reside in a channel system originating from the northeast, which is consistent with the main Cook Inlet channel deposits that are oriented north-northeast to south-southwest.

3. Geologic Information

The KLGF gas accumulation is situated in an anticlinal structure with four-way closure that is aligned with the structural trend of the larger Cannery Loop structure to the south. Both structures are bounded on the west side by steep flanks due to extensive faulting, with more gentle folding on the east side. There is a saddle between the Cannery Loop structure and the Kenai Loop anticline that closes the gas accumulation to the south. Spill points are evident in the structure, occurring at depths of approximately 9,900 feet TVDSS in the upper zone and 10,300 TVDSS feet for the lower zone. Attachment 6 is a structure map on the top of the 9700 and 10000 reservoir zone surfaces

illustrating the relationships between the four wells in the KLGF. Well KL 1-2, which tested wet, is structurally about 135 feet TVDSS lower than the type-well KL 1-1 and resides in the saddle between Cannery Loop and Kenai Loop. This has implications for a gas–water contact (GWC) being higher than the reservoir quality sands in KL 1-2. The KL 1-3 well is structurally the lowest of the four wells and has a deeper GWC than KL 1-1. There is a fault mapped between the two wells, which likely accounts for the difference in GWCs and could imply a separate accumulation with the fault providing a local seal. KL 1-4 was drilled at the top of the structure, has good reservoir quality, but was not produced due to land and lease issues. It was tested and showed slight depletion, which implies that it is in some level of communication with KL 1-1.

The seismic data used for the previous field description was not made available to ASRC/ENSTAR by the current operators of the KLGF. The seismic data used for this reservoir description was publicly available and purchased from Alaska DNR.

After reviewing all the seismic datasets available, ASRC chose the Global Mid-Angle Stack dataset as it was deemed to provide the best representation of this subsurface interval for interpretation and mapping. Data quality is generally good, however after analysis of these datasets, it was clear that portions of the survey were omitted over areas held by CIRI and other lease holders. This constitutes about 20% of the survey area, and not critical for the quality of the mapping, therefore seismic interpretations and mapping were interpolated through this area, which appears to be relatively straightforward in terms of structure and stratigraphy.

The reservoir extent is based on a simple 4-way structural dip closure with spill points to the east at depths of 9900' TVDSS for the 9700 reservoir zone and 10300' TVDSS for the 10000 reservoir zone. The previous field development description was a stratigraphic trap entirely based on a channel depositional system with reservoir pinch-outs and erosional edges. This would have required a different stratigraphic section in the KL 1-2 well versus the KL 1-1, 1-2 and 1-3 wells, which is not the case based on correlated well logs. Also, the channel features were not evident on the seismic data available for this project.

The Tyonek Formation of the Kenai Loop Unit is the oldest geologically of the three formations of the Kenai Group sands that are produced for oil and gas in Cook Inlet. The Tyonek formation is the only interval within the KLGF that has had commercial gas development to date. It is separated from the Cannery Loop gas pool to the south, which is produced from the younger Sterling Formation approximately 4,500 feet TVDSS higher in the geologic section.

The Tyonek sand sequences of the Kenai Group are late Oligocene to Miocene in age and were deposited approximately 15 to 16 million years (Ma) ago. The depositional framework of this sequence of sandstones, siltstones, and coals consists of large-scale, meandering stream systems with occasional sedimentary input and channeling/avulsion by secondary river systems from the east and west of the main paleo-Cook Inlet depositional plain. This fluvial setting produced laterally discontinuous beds of interfingering sandstone, siltstone, conglomerate, and coals, which are

generally more correlative than the sand bodies in the Tyonek. Coals are common with some evidence of lacustrine sedimentation and volcanic ash beds. There are numerous fining-upward sequences within the Tyonek going from conglomerate to sandstone to siltstone to claystone and coal.

The producing sand intervals in the Tyonek are typically 45 to 65 feet thick, fine upward, and are separated by coal and siltstone, barriers. The Tyonek 9700 and 10000 zones of the Kenai Loop Field area are examples of these fining upwards cycles. Intervals exhibiting lower net to gross characteristics (i.e., the Kenai Loop – Tyonek) commonly have sand bodies with good reservoir properties closer to the base of the sequence with thicker intervening shales or coals that may provide lateral and top seals. These sands may exhibit pressure depletion characteristics with minimal water production history. A petrophysical type log from the 9700 zone in well KL 1-1 is shown in Attachment 7.

The 9700 zone is about 80 feet gross thickness and 44 feet net. The reservoir zone is characterized by a sand percentage of about 85 to 90 percent, porosities of 18 to 24 percent with permeabilities up to 10 millidarcies. There is very low to no mobile water.

The petrophysical log for the 10000 zone, shows slightly lower grade rock quality. This interval is also about 80 feet thick total with about 65 feet of net pay and is bounded by coals both above and below, with porosity ranging from 12 to 18 percent and permeability showing a maximum of about 7 millidarcies (mD) and very low to no mobile water.

These intervals have been shown to be productive as gas reservoirs, and the rock properties suggest that they should prove to be good gas storage candidates and are the target storage reservoirs for this gas storage project.

4. Production History

The gas source for the KLGF is the Tyonek Formation below a depth of 8,600 feet TVDSS. The original operator, Buccaneer Energy, Ltd ("Buccaneer") drilled four wells in the Tyonek Formation (KL 1-1, KL 1-2, KL 1-3, and KL 1-4). Buccaneer initiated development of the field with well KL 1-1 (the only well in the lease in 2012) and subsequently drilled three additional wells through 2013. AIX became the operator of KLGF on November 10, 2014, through the bankruptcy proceedings of the original operator. In total, the Tyonek Formation produced over 28.5 Bcf of gas from 2012 through October 2025 (latest available data).

The figures in Attachment 8 show the historical production trends in the KLGF. The gas production at peak season in the KLGF did not exceed 13,000 thousand standard cubic feet per day (Mscf/d), and the condensate and water production have remained below 5 barrels per day (bbl/d) on average. Well KL 1-3 ceased production in 2023 due to liquid loading, and KL 1-1 ceased production in August 2025 due to liquid loading when reservoir pressure dropped below 800 pounds per square inch (psi).

Initial production began with well KL 1-1, which was drilled and completed in 2011 and placed on production on January 13, 2012. The initial testing of KL 1-1 indicated an absolute open flow (AOF) of 31,311 Mscf/d in August 2011, and 6,920 Mscf/d at a wellhead pressure (WHP) of 3,927 psi. This well was completed and perforated in two zones: (1) the 9700 zone (9,705–9,725 feet measured depth [MD]) and the 10000 zone (10,008–10,049 feet MD) within the Tyonek Formation. This is the only well that has been produced throughout the entire production history in KLGF. The total cumulative production from KL 1-1 is approximately 20.5 Bcf as of October 2025.

Well KL 1-1 started producing water from the start. It has produced 1.3 to 3.5 barrels of water per day (bwpd) throughout its operational history. It also has produced small volumes of condensate in its producing history. The total cumulative water and oil production (condensate) is approximately 10,000 barrels of water and 2,100 barrels of condensate. The well is completed with 2-7/8 inch tubing with a subsurface safety valve (SSSV) at 565 feet MD and a chemical injection mandrel for hydrate management at 500 feet MD. The production packer is at 9,666 feet MD.

The KL 1-2 well was drilled and tested for gas producing zones in 9700 and 10000 zones; however, testing did not produce gas, and the well flowed water to the surface. The well was determined to be nonproductive for hydrocarbons and was not completed or placed in production.

Well Kl 1-3 was drilled in 2012 and was put on production in May 2013. AOF analysis showed 9 MMscf/d from the 9700 zone (the only zone completed in this well). The production trends show peak production from 2013 to 2015 when gas production ranged from 3.5 to 4 MMscf/d. After that period, production went into decline with falling tubing head pressure (THP). Just like KL 1-1, the total water production in this well did not exceed 5 bbl/d and the water-to-gas ratio is low enough that this well is considered to produce dry gas. The cumulative gas production in KL 1-3 is more than 8 Bcf, with approximately 3,200 barrels of water and 1,000 barrels of condensate produced.

KL 1-4, the final well drilled in this development, was completed in 2013 and showed an AOF of 10.9 MMscf/d from the 9700 zone. This well was never placed in service due to lease encroachment and distance from lease line. It was used for reservoir surveillance. The well is completed with a 2-7/8-inch tubing.

5. Reservoir Analysis and Modeling

Since 2013, several analyses have been performed in the KLGF based on available surveillance data. There were only two wells producing during most of the production history; repeated pressure transient analysis and pressure build-up tests were used to understand the reservoir pressure boundaries and to use volumetric pressure-to-compressibility ratio (P/Z) versus cumulative gas production to estimate the initial gas in place (IGIP). The approach relies on multiple pressure surveys performed in KL 1-1 and KL 1-3, with pressures converted to P/Z using a gas compressibility factor correlation based on reservoir pressure and temperature.

- The reservoir temperature was assumed to be constant at 160 degrees Fahrenheit (°F) (71.1 degrees Celsius [°C]).
- Z factor values were calculated for each shut-in bottomhole pressure (SIBHP) from KL 1-1, KL 1-3, and KL 1-4.
- KL 1-4 shut-in tubing head pressure (SITHP), corrected for fluid level in the well, showed a reliable estimate of reservoir pressure in the eastern part of the field.
- The reservoir datum depth was set at 9,707 feet true vertical depth ("TVD"). (ground level)

Based on historical pressure build-up tests (PBU) in both wells, it is estimated that, later in the field life, water influx played a role in reservoir pressure trends as a function of cumulative gas production. For instance, KL 1-4 pressure trends stabilized in 2017–2018 because of water encroachment and influx due to depletion mainly from the KL 1-1 9700 zone. Hence, the conventional volumetric depletion method of pressure-to-compressibility ratio (P/Z) versus cumulative gas production is no longer a valid approach to estimate the IGIP in the Tyonek sands. Attachment 9 shows the non-linear trend of P/Z that is attributed to aquifer influx. Furthermore, repeated PBU tests in KL 1-3 and KL 1-1 in the period from 2018 to 2024 indicate possible pressure derivative response associated with moving fluid boundaries (water influx).

Pressure-transient responses interpreted from the ΔP (pressure change), defined as the normalized pressure change and the corresponding logarithmic pressure derivative, d(ΔP)/d(ln t), as well as pressure-derivative plots indicate that KL 1-1 has exhibited a consistent flow regime dominated by channel flow (i.e., parallel faults) since 2017, whereas KL 1-3 shows pressure-derivative signatures consistent with intersecting faults and a dominant flow boundary.

- **DP (ΔP) plots for KL 1-1 corresponding to the 2022 and 2023 pressure buildups** indicate the presence of a highly effective permeability channel, suggesting that the well **may be** close to either a pair of parallel faults or **located within** an open-ended rectangular reservoir.
- **By contrast, DP (ΔP) plots for KL 1-3 c**onsistently indicate intersecting fault geometries and a different dominant flow regime.
- **These interpretations differ significantly from earlier interpretations** and could reflect **changes in reservoir conditions**, including **the effects of** water encroachment and pressure support.

As a result of the complexity of a gas field with water influx, and to properly assess the extent of the initial hydrocarbon pore volume (HCPV), a reservoir simulation model was constructed to capture the vertical and horizontal heterogeneity of the Tyonek sands. The model grid is rotated to be aligned with the structural faults and the direction of water influx (SW to NE). Grid cell dimensions are 100 ft with 5 layers representing the upper 9700 zone and 3 layers representing the lower 10000 zone. The porosity and gas saturation cross sections are shown in Attachment 15. The model grid extends well

beyond the GWC in each zone which allows for aquifer influx by expansion due to pressure decline during the historic production period.

Data from petrophysical analysis of well logs were employed as control points to generate structure and reservoir property distributions for each pay zone. The permeability at wells was initially calculated from the permeability-porosity cross plot as shown in Attachment 10. The plot was created from data associated with the Tyonek gas field. Permeability was then distributed using geostatistical methods throughout the model grid.

In a similar fashion, porosity and gas saturation were determined from petrophysical analysis of well logs. Values at well control points were then distributed using geostatistical methods throughout the model grid

To define the effective gas pore space (reservoir limit), the 9700 and 10000 zone were divided in areal regions based on geophysical interpretation of seismic data, the interpretation of the individual well boundaries from PBU analyses, and structural and original GWC observed in logs in KLGF was used to initiate the reservoir volume. The initialization of the reservoir simulation model with the best estimate of GWC in each layer and placement of the faults and channels in the main section of the reservoir provided an approximate areal extent of gas (effective pore volume) for the two pay zones, as shown in Attachment 11. The model generated capillary pressure adjustments so that gas and water were initially at equilibrium in each grid cell. IGIP was determined to be 32.3 Bcf, which is consistent with material balance estimates that included water influx. Average properties and IGIP by zone are shown in Attachment 14.

The history match of the model based on the interpreted gas saturation and channel/fault configuration resulted in a good match with the production history, pressure decline with withdrawal, and water arrival times. The only match adjustment was increasing permeability by 2X globally in the grid. Attachments 12 and 13 are plots of simulated versus historical data. The simulation model closely matches the measured datum pressure and water arrival time data, using historical gas production as input. The reservoir simulation model yielded similar results for remaining gas-in-place and pressure as evaluated by the material balance technique when aquifer influx is included. The remaining gas in place and the stabilized datum pressure were estimated to be 3.8 Bcf and 1,024 pounds per square inch absolute (psia), respectively.

Attachment 14 was created by stacking the two intervals of effective pore volumes to determine the combined effective area of the reservoir. This exhibit provides data essential to the storage design, such as selecting the storage boundary and optimizing storage well placement and completion programs.

6. Storage Design and Operation

Preliminary well design parameters such as tubular size, well placement and completion were derived from the analysis of the storage deliverability curve. The simulation model was constructed with the 3 existing wells completed with 4.5-inch x 2-7/8-inch tapered tubing design, and the future wells with 4.5-inch tubing completions which are to be completed with cemented 7-inch liners perforated in both zones. Attachment 16 illustrates the placement of the storage wells among the existing wells and their completion within the Tyonek interval. ENSTAR has not yet developed a detailed plan for future storage expansion. The facility is designed such that additional compression, separation, dehydration, measurement, and storage injection/withdrawal wells could be accommodated to the extent that an expansion of the facility is warranted. ENSTAR will file an amended application with the Alaska Oil and Gas Conservation Commission (AOGCC) and apply for any other regulatory permits prior to any facility expansion.

E. 20 AAC 25.252(c)(5) – Well Logs

Regulation 20 AAC 25.252 (c)(5) Logs of the disposal or storage wells, if not already on file, or other similar information.

All logs from the existing wells within the KLGF have been previously submitted to the AOGCC by the field production operator. Interpreted log sections for all wells across the Tyonek Gas Pool are attached to this application (Attachments 17-19).

ENSTAR intends to acquire logging while drilling (LWD) logs on any new injection/withdrawal wells. The minimum logging program will consist of continuous mud logging, gamma ray (GR) for surface and intermediate holes, and triple-combo (GR, resistivity, neutron/density) in the production hole. Cement bond logs will be run on the intermediate and production casings. Once acquired, this data will be filed with State of Alaska agencies per requirements.

F. 20 AAC 25.252(c)(6) - Integrity

Regulation 20 AAC 25.252 (c)(6) requires a description of the proposed method for demonstrating the mechanical integrity of the casing and tubing under 20 AAC 25.412 and for demonstrating that fluids will not move behind casing beyond the approved disposal or storage zone, and a description of (A) the casing of the disposal or storage wells, if the wells are existing; or (B) the proposed casing program, if the disposal or storage wells are new.

1. Mechanical Integrity

The proposed storage injection/withdrawal wells consist of three existing wellbores that will be used in the initial phase of the gas storage development as well as new wells that may be drilled to support

gas storage deliverability. The existing wells KL 1-1, KL 1-3, and KL 1-4 will be worked over to prepare the wellbores for gas storage service. All wells will be tested for mechanical integrity during completion using the standard 30-minute annulus test per 20 AAC 25.412. ENSTAR will continue monitoring the tubing/casing annulus pressures for an indication of possible tubing/casing leaks. Abnormal occurrence of annular pressure at any well will be followed by actions to isolate the well from reservoir pressure. ENSTAR will investigate the occurrence and then perform remedial actions as required. Following the corrective actions, ENSTAR will conduct a mechanical integrity test (MIT) to re-confirm the well tubing mechanical integrity that is witnessed by the representative of the AOGCC.

ENSTAR will monitor daily injection and withdrawal rates and pressures to validate mechanical integrity through material balance monitoring during injection and withdrawal operations. Furthermore, mechanical integrity will be monitored by observing the material balance plot of P/Z versus cumulative gas withdrawn or injected during gas storge operations. The observed pressure in storage/withdrawal cycles are compared to original depletion for signs of possible mechanical integrity issues. This forward monitoring of pressures and volumes in a gas storage reservoir will provide an additional check on integrity, where data from the primary depletion can be compared with data from subsequent injection/withdrawal cycles.

Although some degree of hysteresis will likely occur, any inventory loss associated with loss of mechanical integrity will be evident in this data.

The AOGCC will receive monthly reports of injection/withdrawal rates, volumes, and pressures on a per well basis.

Table 1 Casing Information for Existing Wells

Kenai Loop 1-1			**PTD: 211-043**
Casing Size	From (MD)	To (MD)	Comments
10-3/4"	Surface	3057'	Cemented to surface
7-5/8"	Surface	8024'	TOC at 5000', CBL
4-1/2"	7892'	10676'	Circulated cement off TOL, CBL

Kenai Loop 1-2			**PTD: 211-097**
Casing Size	From (MD)	To (MD)	Comments
10-3/4"	Surface	3027'	Cemented to surface
7-5/8"	Surface	8330'	TOC at 4850', CBL
4-1/2"	8100'	11368'	Circulated cement off TOL, CBL

Kenai Loop 1-3			**PTD: 212-074**
Casing Size	From (MD)	To (MD)	Comments
10-3/4"	Surface	3024'	Cemented to surface
7-5/8"	Surface	8609'	TOC at 3624', CBL
4-1/2"	8339'	10035'	Circulated cement off TOL, CBL, Liner would not pressure test, found leak below liner top packer at 8650-8700', squeezed, successfully pressure tested to 2500 psi.

Kenai Loop 1-4			**PTD: 213-091**
Casing Size	From (MD)	To (MD)	Comments
10-3/4"	Surface	3057'	Cemented to surface
7-5/8"	Surface	9474'	TOC at 5520', CBL
4-1/2"	9273'	11396'	Plug did not bump on primary cement job, squeezed liner, successfully pressure tested to 4000 psi, logged post squeeze CBL showing good cement coverage

2. Casing Information

An application may be made later to drill additional gas storage wells under the Permit to Drill. All casing strings for the new injection/withdrawal wells will be cemented in accordance with the AOGCC regulations for injection storage wells. Selective perforation of the liner will be achieved through petrophysical analysis of a comprehensive logging suite to be acquired by LWD across the prospective interval prior to running the production liner. The production liner will have a liner top packer and tie-back seal bore for the production tubing to provide isolation and integrity of the reservoir interval from the annulus. The liner and tubing will have "gas tight," metal-on-metal premium connections. A hydraulically actuated SSSV will be installed. Attachment 20 shows a typical storage well casing and completion design for this project.

G. 20 AAC 25.252(c)(7) – Injection Fluid

Regulation 20 AAC 25.252 (c)(7) requires a statement as to the type of oil field wastes to be disposed or hydrocarbons stored, their composition, their source, the estimated maximum amounts to be disposed of or stored daily, and the compatibility of fluids to be disposed or stored with the disposal or storage zone;

ENSTAR intends to inject a stream of dry natural gas with a typical composition of approximately 98 percent methane and specific gravities ranging from 0.56 to 0.58. It is expected that injection gas will be generally sourced from the greater Cook Inlet region via the Kenai–Nikiski Pipeline (KNPL). Since the compositional makeup of gas within the KNPL system consists of produced gas from various "downstream" fields, an attempt to characterize this makeup is included in the attached gas analysis spreadsheet (Attachment 21). This data represents the compositional averaging of 3 years of samples taken at various points throughout the Cook Inlet gas pipeline system. Characterization of the range of expected compositions is not only beneficial for understanding compatibility with fluids within the reservoir storage zone, but also for the process design engineering of the surface facilities. It is possible that at some future date, gas from sources outside of the Cook Inlet region may be stored in the KLGF Tyonek interval.

H. 20 AAC 25.252(c)(8) – Injection Pressure

Regulation 20 AAC 25.252 (c)(8) requires a statement regarding the estimated average and maximum injection pressure;

ENSTAR plans to install injection compression to achieve a maximum compression discharge pressure of up to 5000 psig. This will provide ample compression capacity to fill the reservoir to its maximum limit (5395 psia at Datum depth of 9707' TVD) which corresponds to a pressure gradient of 0.55 psi/ft.

ENSTAR requests a maximum average reservoir pressure of 5395 psia, which is the original reservoir pressure at discovery. The maximum surface injection pressure at the well will not exceed 4700 psia. The bottom hole injection pressure (BHP) will not exceed 5395 psia at datum reference depth. The SI WHP at maximum BHP will be 4500 psia.

I. 20 AAC 25.252(c)(9) – Fracture Information

Regulation 20 AAC 25.252 (c)(9) requires evidence to support a commission finding that the proposed disposal or storage operation will not initiate or propagate fractures through the confining zones that might enable the oil field wastes or stored hydrocarbons to enter freshwater strata;

The proposed maximum injection pressure (4700 psia) will not initiate fractures in the confining strata, which could enable stored gas to enter shallower freshwater strata.

Leak off tests were performed in wells KL 1-1, KL 1-2, KL 1-3, and KL 1-4 below the 7-5/8-inch intermediate casing shoes. In these wells, the intermediate casing was set near the top of the Upper Tyonek Formation. Following cementing operations, approximately 20 feet of new formation was drilled out below the casing shoe and leak off tests performed. Table 2, which summarizes these three tests, shows an average fracture gradient of 0.770 psi/ft for leak off at the top of the Tyonek interval. Note that this fracture gradient is significantly higher than the Tyonek field discovery pressure gradient of 0.551 psi/ft. Limiting the BHP to 5,395 psia will ensure the injected gas remains significantly below the calculated fracture departure pressure of 7,465 psi in the Tyonek storage reservoir at 9,707 feet TVD.

Table 2 Leak Off Data

7-5/8" Intermediate Casing Leak-off Test (LOT) Results

Well	Casing Shoe Depth (md)	Casing Shoe Depth (tvd)	LOT Depth (md)	LOT Depth (tvd)	Equivalent Mud Wt. (at shoe) (ppg)	Frac Gradient (psi/ft)	Departure Pressure at LOT depth (8441' TVD), (psi)	Departure Pressure at storage sand depth (9700' TVD), (psi)
KL 1-1	8024	8021	8070	8066	13.5	0.702	5662	
KL 1-2	8330	7969	8361	7999	16.0	0.832	6655	
KL 1-3	8644	8305	8461	8328	15.0	0.780	6496	
KL 1-4	9474	9277	9570	9373	14.5	0.754	7067	
Average	**8618**	**8393**	**8615**	**8441**	**14.8**	**0.770**	**6496**	**7465**

J. 20 AAC 25.252(c)(10) – Formation Fluid

Regulation 20 AAC 25.252 (c)(10) requires a standard laboratory water analysis, or the results of another method acceptable to the commission, to determine the quality of the water within the formation into which disposal or storage is proposed;

A produced water sample was collected in the down-dip KL 1-3 well during drill stem testing (DST) operations. The result shows that the water produced from the Tyonek zones has a total dissolved solids concentration greater than 9,000 parts per million (ppm) as shown in Attachment 22.

K. 20 AAC 25.252(c)(11) – Aquifer Exemption

Regulation 20 AAC 25.252 (c)(11) requires a reference to any applicable freshwater exemption issued in accordance with 20 AAC 25.440;

The proposed gas storage injection reservoir interval will be at a depth of approximately 8,600 feet – 10,500 feet TVDSS. ENSTAR is preparing an application for an Aquifer Exemption covering these depths.

L. 20 AAC 25.252(c)(12) – Wells within Area

Regulation 20 AAC 25.252 (c)(12) requires a report on the mechanical condition of each well that has penetrated the disposal or storage zone within a one-quarter mile radius of a disposal or storage well.

Currently four (4) wells have been drilled within the KLGF and no additional wells exist within one-quarter mile radius of the proposed gas storage wells. Existing wells KL 1-1, KL 1-3, and KL 1-4 penetrate the Tyonek gas reservoir and are to be converted to injection and withdrawal gas storage wells. KL 1-2 was drilled on the southern edge of the field and penetrated Tyonek sands that are water bearing and not connected to the proposed gas storage reservoir. The well tested in multiple wet Tyonek and Beluga sands and is currently plugged back in the Beluga formation at 6400 feet MD.

ENSTAR proposes using KL 1-1, KL 1-3, and KL 1-4 as injection and withdrawal service wells. Additional wells may be drilled in the future to meet reservoir deliverability and surface facility design requirements. ENSTAR is considering plans to convert KL 1-2 into a Class II disposal well to manage produced water from the gas storage facility. A separate injection order will be filed at a future time specific to disposal.

New wells will be directionally drilled from the gravel pad targeting infill locations within the prospective gas storage reservoir as defined by current well control and seismic analysis.

Attachment 23 is a table detailing original and current owner/operatorship, surface location, drill and completion dates, total measured depth and true vertical depth, completed formation, and current status of the existing Kenai Loop Unit wells.

A summary of the wells in the Kenai Loop Unit is presented in Attachment 24 including all pertinent casing and cementing data.

M. 20 AAC 25.055(a)(4) – Storage Well Spacing Exemption

Regulation 20 AAC 25.055 (a)(4) requires a commission waiver from the statewide gas producing well spacing requirements for the proposed storage well spacing;

The required high flow rates will create significant pressure drop in the reservoir within a short time (from initial maximum reservoir pressure of 5395 psia to 1500 psia, as shown in Attachment 29. Due to this key performance objective, it is necessary to design a drilling pattern that places the completion of the injection/withdrawal wells with spacing as low as 800 feet.

ENSTAR will seek individual well spacing exemption as the need for additional wells to be drilled and completed will be assessed based on market and gas demand in the future.

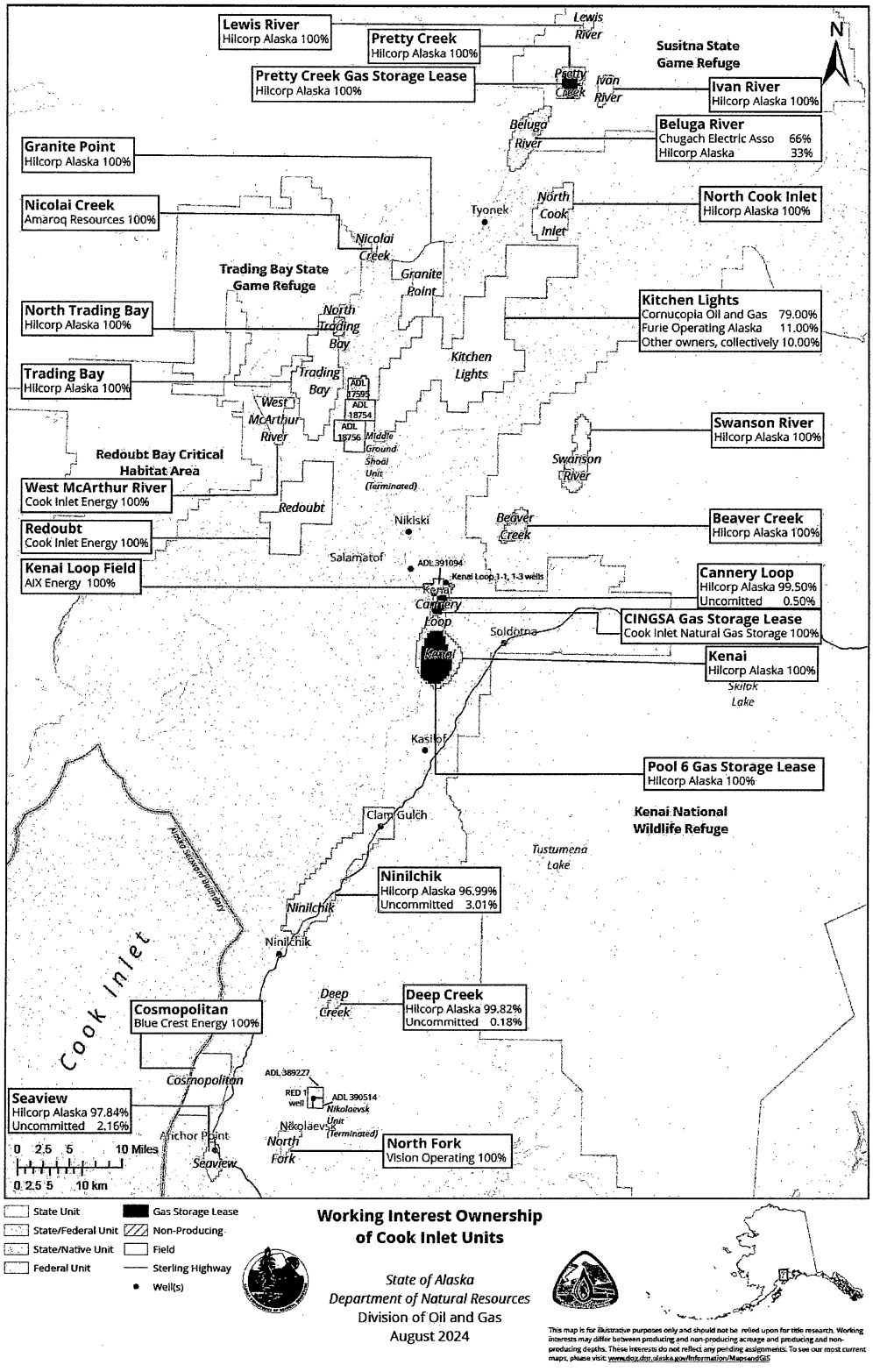
N. 20 AAC 25.265(a)(2) – Automatic Shut-in Equipment

Regulation 20 AAC 25.265 requires a fail-safe safety valve system for preventing an uncontrolled flow of hydrocarbon to the surface;

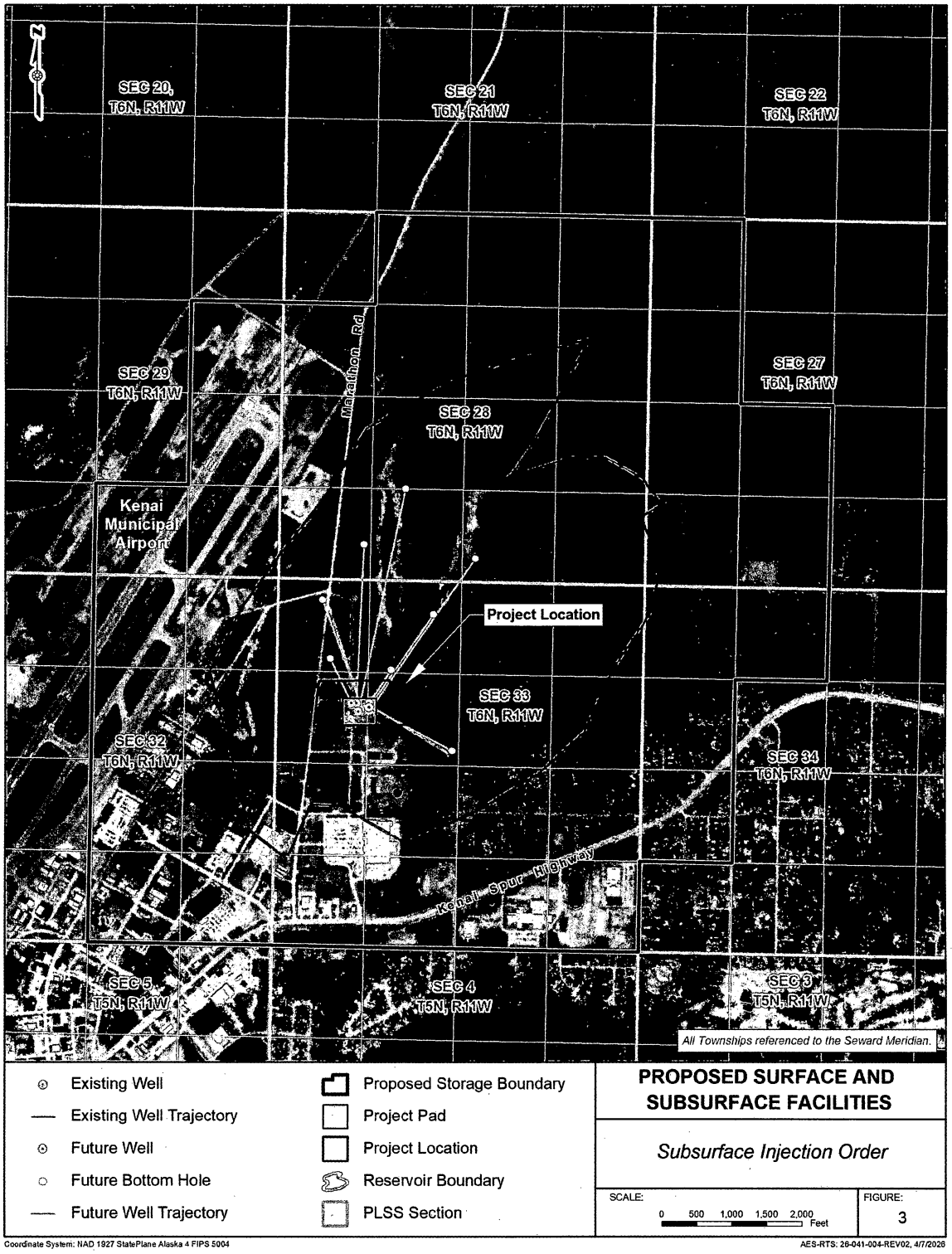
The individual storage injection/withdrawal wells are designed to produce at maximum rates of approximately 50 MMscf/d during withdrawal season. To manage the risk of integrity at the surface and uncontrolled flow of gas, ENSTAR will install a surface controlled subsurface safety valve ("SSSV") in each well. Attachment 30 illustrates a typical SSSV assembly for the project.

ENSTAR will also install a Supervisory Control and Data Acquisition (SCADA) system for the well pad area. The SCADA system will include the ability to monitor the pressure, temperature, and gas flow rate at each injection / withdrawal well from the central control room located in the Compressor Station Facility. Each of the 6-inch well laterals, and the 12-inch gathering header will include actuator-equipped isolation valves that will enable each lateral and the gathering header to be shut-in from the well pad gate as well as from the central control room.

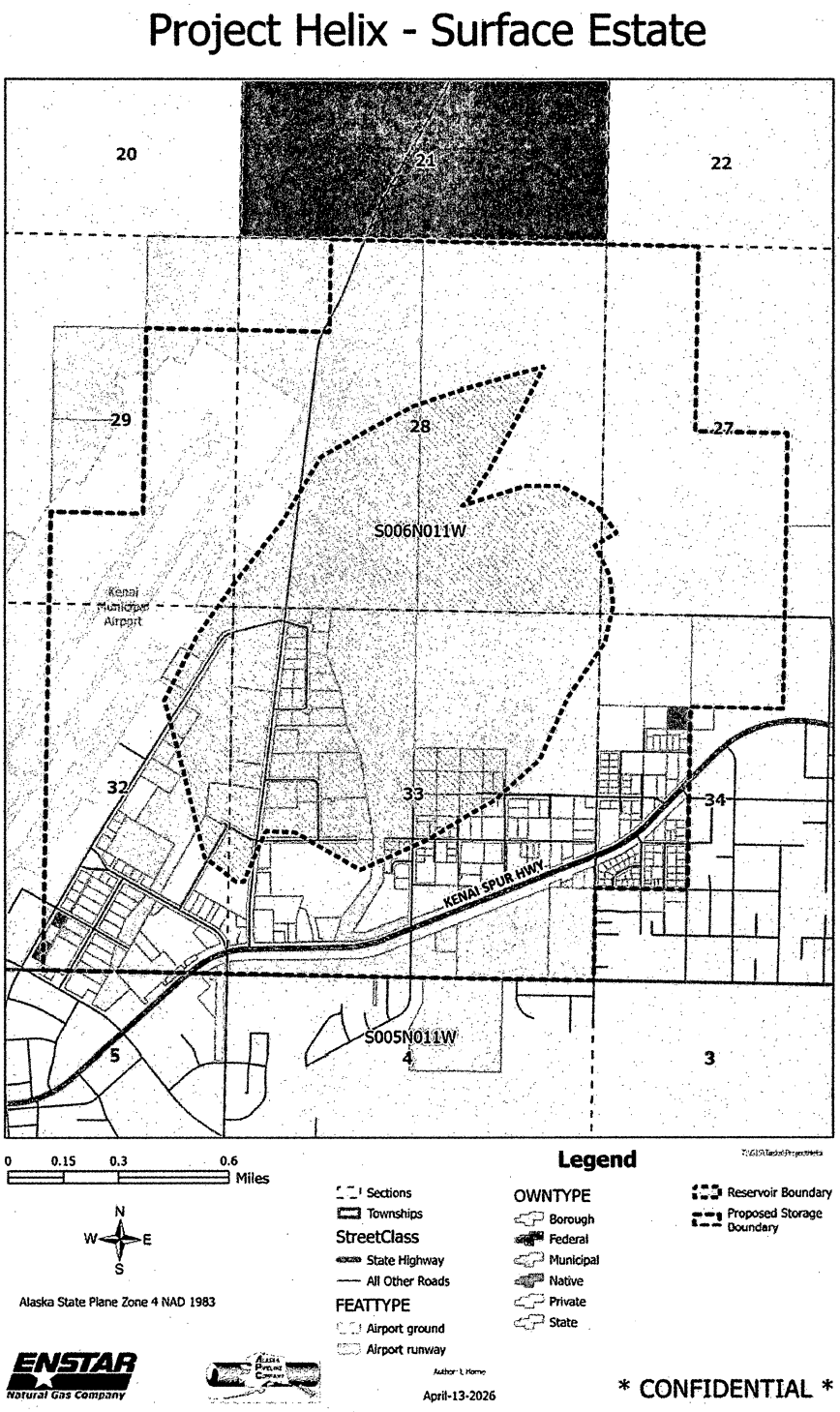
Attachment 1 Regional Location Map



Attachment 2 Storage Boundary Map



Attachment 3 Surface Ownership Map



Attachment 4 Surface Owners within the Proposed Storage Boundary

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04705236	10431 KENAI SPUR ASPEN LLC	PO BOX 202845	ANCHORAGE	AK	99520
04501064	ALASKA CHILDRENS INSTITUTE FOR THE PERFORMING ARTS	PO BOX 322	KENAI	AK	99611
04339045	ALASKA KING'S INN HOTEL LLC	881 N NORTHSHORE DR	WASILLA	AK	99654
04101007	ALASKA MENTAL HEALTH TRUST AUTHORITY	3745 COMMUNITY PARK LOOP STE 200	ANCHORAGE	AK	99508
04501005	ALASKA MENTAL HEALTH TRUST AUTHORITY	3745 COMMUNITY PARK LOOP STE 200	ANCHORAGE	AK	99508
04501011	ALASKA MENTAL HEALTH TRUST AUTHORITY	3745 COMMUNITY PARK LOOP STE 200	ANCHORAGE	AK	99508
04322011	ALASKA PRIME INVESTMENTS LLC	PO BOX 831	KASILOF	AK	99610
04323028	ALASKA STATE D N R	550 W 7TH AVE STE 650	ANCHORAGE	AK	99501
04336041	ALASKA STATE D N R	550 W 7TH AVE STE 650	ANCHORAGE	AK	99501
04515117	AMOS FINANCIAL LLC	3330 SKOKIE VALLEY RD STE 301	HIGHLAND PARK	IL	60035
04509035	ANDERSON STEVE W	507 JAPONSKI DR	KENAI	AK	99611
04509015	ANDERTON ARNOLD	32896 RIVERWIND DR	SOLDOTNA	AK	99669
04511028	ANDREWS VICTORIA S	1109 KIANA LN	KENAI	AK	99611
04511009	ANGLEBRANDT LAURIE	9135 KENAI SPUR HWY	KENAI	AK	99611
04504007	ASKIN MARTY B	PO BOX 178	KENAI	AK	99611
04339047	AURORA PROPERTIES LLC	5525 HERO DR	AUSTIN	TX	78735
04509031	AXTELL LAUREN R	PO BOX 690	KENAI	AK	99611
04339038	BACKGROUND LLC	1670 INDIAN WELLS CT	KENAI	AK	99611
04504004	BINKLEY NICOLE	407 MCCOLLUM DR	KENAI	AK	99611
04504014	BORNEMANN BRANDEN J	403 MCCOLLUM DR	KENAI	AK	99611
04505009	BROWN MICHAEL S	PO BOX 445	KENAI	AK	99611
04509005	BROWN ROBERT	8984 KENAI SPUR HWY UNIT A	KENAI	AK	99611
04513065	BUFFINGTON EDWARD WALTER	PO BOX 2735	KENAI	AK	99611
04513066	BUFFINGTON EDWARD WALTER	PO BOX 2735	KENAI	AK	99611
04322009	BUNCH STEPHEN M	PO BOX 831	KASILOF	AK	99610
04322010	BUNCH STEPHEN M	PO BOX 831	KASILOF	AK	99610
04507008	BURNS BRIAN O	1101A FOX AVE	KENAI	AK	99611
04505002	CARLSON RONALD E	310 PRINCESS ST	KENAI	AK	99611
04505014	CARLSON RONALD E	310 PRINCESS ST	KENAI	AK	99611
04502010	CHEESEMAN ALLYN C	PO BOX 2944	KENAI	AK	99611
04502009	CHEESEMAN ALLYN C & KAREN M	PO BOX 2944	KENAI	AK	99611
04502004	CHEESEMAN MASON	PO BOX 2944	KENAI	AK	99611
04504008	CHIPMAN CREIGHTON L	903 MAGIC AVE	KENAI	AK	99611
04513038	CHURCH OF CHRIST	313 LINWOOD LN	KENAI	AK	99611
04322005	CIRCLE N LLC	219 LAKE ST S STE B	KIRKLAND	WA	98033
04322006	CIRCLE N LLC	219 LAKE ST S STE B	KIRKLAND	WA	98033
04523013	COATES LISA A	410 MAGIC AVE	KENAI	AK	99611

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04339040	COOK INLET COUNCIL ON ALCOHOL & DRUG ABUSE	PO BOX 882	KENAI	AK	99611
04507003	COOK INLET REGION INC	PO BOX 93330	ANCHORAGE	AK	99509
04322018	CPD ALASKA LLC	201 ARCTIC SLOPE AVE	ANCHORAGE	AK	99518
04513025	CUTTING EDGE HOMES/CABINS INC	8144 N ONONDAGA ST	PALMER	AK	99645
04523012	DEANO BENJAMIN C	311 PRINCESS ST	KENAI	AK	99611
04322001	DODGE DONALD J & MARY K	PO BOX 909	STERLING	AK	99672
04322002	DODGE MARY KNOX	PO BOX 909	STERLING	AK	99672
04336110	DOUBLE GLACIER BUILDERS LLC	3330 C ST STE 101	ANCHORAGE	AK	99503
04513011	DUKOWITZ BRITTANY ANN	PO BOX 670383	CHUGIAK	AK	99567
04506014	DUSTIN DENNIS	PO BOX 209	ANCHOR POINT	AK	99556
04503008	E Z MANAGEMENT LLC	PO BOX 3293	KENAI	AK	99611
04505011	E Z MANAGEMENT LLC	PO BOX 3293	KENAI	AK	99611
04505024	E Z MANAGEMENT LLC	PO BOX 3293	KENAI	AK	99611
04509020	ELSEY CAELAN L	504 MCCOLLUM DR	KENAI	AK	99611
04513068	EVANS JACK C & PATRICIA L	308 JAMES ST	KENAI	AK	99611
04506024	FALKENBERG PATRICIA	PO BOX 3293	KENAI	AK	99611
04511027	FENN RICHARD C	1111 KIANA LN	KENAI	AK	99611
04513032	FIKES DIANE M	307 LINWOOD LN	KENAI	AK	99611
04513022	FINGER THOMAS II	303 KULILA PL	KENAI	AK	99611
04339050	FIVE SAC SELF-STORAGE CORPORATION	207 E CLARENDON AVE	PHOENIX	AZ	85012
04336044	FIVE SAC SELF-STORAGE CORPORATION	207 E CLARENDON AVE	PHOENIX	AZ	85012
04339041	FRANKLIN TODD WORTHAM DDS LLC	10160 KENAI SPUR HWY	KENAI	AK	99611
04513023	FRIZZELL KURTZ	1003 KAKNU WAY	KENAI	AK	99611
04509014	GERMEAUX SHAWN COLBURN	506 JAPONSKI DR	KENAI	AK	99611
04513047	GIFFORD JONATHAN C	312 DOLLY VARDEN ST	KENAI	AK	99611
04336045	GLM ENERGY SERVICES LLC	420 N WILLOW ST	KENAI	AK	99611
04505028	GLOVER JEFFREY	306 PRINCESS ST	KENAI	AK	99611
04508001	GOODWIN DOUGLAS EUGENE	716 LINWOOD LN	KENAI	AK	99611
04509025	GOODWIN WILLIAM	660 TERN PL	KENAI	AK	99611
04511033	GRACE BRETHREN CHURCH OF KENAI ALASKA	406 MCCOLLUM DR	KENAI	AK	99611
04505018	GREENBERG GARY A	307 HUTTO ST	KENAI	AK	99611
04511006	GUTIERREZ JARROD N	PO BOX 1985	KENAI	AK	99611
04513035	G-WIZ RENTALS LLC	5839 KENAI SPUR HWY	KENAI	AK	99611
04513036	G-WIZ RENTALS LLC	5839 KENAI SPUR HWY	KENAI	AK	99611
04513037	G-WIZ RENTALS LLC	5839 KENAI SPUR HWY	KENAI	AK	99611
04323030	HALPIN BERENICE ISABEL	PO BOX 2483	HOMER	AK	99603
04513034	HAMILTON CAROL A	1113 KAKNU WAY	KENAI	AK	99611
04507010	HANSEN ALMA	1103 FOX AVE	KENAI	AK	99611
04513028	HATCH SHIRLEY	303 DOLLY VARDEN ST	KENAI	AK	99611
04509034	HAYES CHRISTOPHER LEE	1106 FOX AVE APT C	KENAI	AK	99611
04509003	HAYES ELIZABETH A	PO BOX 223	KENAI	AK	99611

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04507013	HAYES ENTERPRISES LLC	36991 CHINULNA CT	KENAI	AK	99611
04507009	HAYES JACK L	1111 FOX AVE	KENAI	AK	99611
04507011	HAYES JACK L	1111 FOX AVE	KENAI	AK	99611
04507012	HAYES JACK L	1111 FOX AVE	KENAI	AK	99611
04507014	HAYES JACK L & JEANNE	1111 FOX AVE	KENAI	AK	99611
04507015	HAYES JACK L & JEANNE N	1111 FOX AVE	KENAI	AK	99611
04507002	HAYES JEANNE NELLENA	1111 FOX AVE	KENAI	AK	99611
04506013	HEAVERLEY BENJAMIN A		SOLDOTNA	AK	99669
04504010	HENSLEY CHRISTOPHER M L	808 ALIAK DR	KENAI	AK	99611
04511012	HINKLE GARY CLARENCE LIVING TRUST	PO BOX 322	SOLDOTNA	AK	99669
04511017	HINKLE GARY CLARENCE LIVING TRUST	PO BOX 322	SOLDOTNA	AK	99669
04507001	HOLMES MARK	4493 LAKEWOOD BLVD	NAPLES	FL	34112
04509028	HOLMES SCOTT & CHRIS	606 MCCOLLUM DR	KENAI	AK	99611
04509029	HOLSCHER KURT E	3226 66TH AVE	GREELEY	CO	80634
04336023	HOMER ELECTRIC ASSN INC	3977 LAKE ST	HOMER	AK	99603
04336105	HOMER ELECTRIC ASSOCIATION INC	3977 LAKE ST	HOMER	AK	99603
04503012	HUNT ERNEST H & RHONDA L	411 CINDERELLA ST	KENAI	AK	99611
04513021	JACKSON BILL N & JESSIE F	245 BANNER LN	SOLDOTNA	AK	99669
04504003	JOHNSON ERIS E	602 DAVIDSON DR	KENAI	AK	99611
04503024	JOHNSON RICHARD A	603 MAGIC AVE	KENAI	AK	99611
04505023	KECKER BRADLEY ALLEN Jr	708 MAGIC AVE	KENAI	AK	99611
04101004	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04318045	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04318046	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04318049	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04322008	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04322020	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04322021	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04323014	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04336003	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04336033	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
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04336036	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04336050	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04336051	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04501023	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501003	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501030	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501031	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501037	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501038	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501039	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501040	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501041	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501042	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501043	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501044	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501045	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04501050	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
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04501052	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501053	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501054	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501055	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501056	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501057	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501058	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501059	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501060	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501062	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04501063	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04506006	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04506008	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04101021	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04318043	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04339007	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04705216	KENAI CITY OF	210 FIDALGO AVE STE 200	KENAI	AK	99611
04322007	KENAI GETAWAY, a partnerhsip	1513 TOYON WAY	KENAI	AK	99611
04322003	KENAI GETAWAY, a partnership	1513 TOYON WAY	KENAI	AK	99611
04511024	KENAI GRACE BRETHREN CHURCH	406 MCCOLLUM DR	KENAI	AK	99611
04511025	KENAI GRACE BRETHREN CHURCH	406 MCCOLLUM DR	KENAI	AK	99611
04511010	KENAI LIONS CLUB INC	PO BOX 298	KENAI	AK	99611
04523015	KENAI NEW LIFE ASSEMBLY OF GOD CHURCH	209 PRINCESS ST	KENAI	AK	99611
04523007	KENAI NEW LIFE ASSEMBLY OF GOD CHURCH	209 PRINCESS ST	KENAI	AK	99611
04523008	KENAI NEW LIFE ASSEMBLY OF GOD CHURCH	209 PRINCESS ST	KENAI	AK	99611
04501007	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04501008	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04501009	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04501010	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04506010	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04506012	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04501012	KENAI PENINSULA BOROUGH	144 N BINKLEY ST	SOLDOTNA	AK	99669
04339030	KENAI PLAZA 3-B-1 L L C	411 W CONGRESS ST	TUCSON	AZ	85701
04339031	KENAI PLAZA 3-B-1 L L C	411 W CONGRESS ST	TUCSON	AZ	85701
04339032	KENAI PLAZA 3-B-1 L L C	411 W CONGRESS ST	TUCSON	AZ	85701
04339033	KENAI PLAZA 5-B-1 LLC	411 W CONGRESS ST	TUCSON	AZ	85701
04339036	KENAI PLAZA ANNEX LLC	301 RIVERSIDE DR	SOLDOTNA	AK	99669
04339034	KENAI PLAZA/CARRS-SAFEWAY LLC	411 W CONGRESS ST	TUCSON	AZ	85701
04323027	KENAITZE INDIAN TRIBE	PO BOX 988	KENAI	AK	99611
04323025	KENAITZE INDIAN TRIBE	PO BOX 988	KENAI	AK	99611
04323026	KENAITZE INDIAN TRIBE	PO BOX 988	KENAI	AK	99611
04339039	KENAITZE INDIAN TRIBE	PO BOX 988	KENAI	AK	99611
04509022	KENT MICHAEL	1350 ANGLER DR	KENAI	AK	99611
04509036	KERBS ANNETTE	9501 S TEMPLE DR	SOUTH JORDAN	UT	84095
04509024	KING ANDREA A	1103 ALIAK DR	KENAI	AK	99611
04505016	KINNEY NORMA K	PO BOX 1622	KENAI	AK	99611
04322004	L&L PROPERTIES LLC	9022 JEWEL TERRACE ST	ANCHORAGE	AK	99502
04513008	LANE PHILLIP D	21443 RUSHING RIVER CIR	EAGLE RIVER	AK	99577
04513009	LANE PHILLIP D	21443 RUSHING RIVER CIR	EAGLE RIVER	AK	99577
04513010	LANE PHILLIP D	21443 RUSHING RIVER CIR	EAGLE RIVER	AK	99577
04506007	LASHOT BILLY JACK	PO BOX 473	KENAI	AK	99611
04511026	LEONG JOHN B & LORENZO JANICE M	1010 ALIAK DR # 9	KENAI	AK	99611
04505017	LINDLEY RYAN I	309 HUTTO ST # 2LWR	KENAI	AK	99611
04513040	LOTT JAMES C	2745 WATERGATE WAY	KENAI	AK	99611
04506015	MAGIC TRUST	PO BOX 614	SOLDOTNA	AK	99669
04511015	MAHAN MERANDA M	403 LINWOOD LN	KENAI	AK	99611

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04502003	MAKI RICHARD I	6855 TOWN AND COUNTRY PL	ANCHORAGE	AK	99502
04513059	MANGLE BRADLEY	1105 KAKNU WAY	KENAI	AK	99611
04506004	MARCK LOIS ELLEN	812 MAGIC AVE	KENAI	AK	99611
04511023	MARQUIS GLEN L	1008 ALIAK DR	KENAI	AK	99611
04511021	MARQUIS GLEN L & CHRISTINE F	1008 ALIAK DR	KENAI	AK	99611
04511022	MARQUIS GLEN L & CHRISTINE F	1008 ALIAK DR	KENAI	AK	99611
04509023	MARTIN WALTER G	1003 ALIAK DR	KENAI	AK	99611
04513044	MCCOMSEY MARK S	PO BOX 9	KENAI	AK	99611
04511007	MCCUSKER EDITH YVONNE	9136 KENAI SPUR HWY	KENAI	AK	99611
04513020	MCDONALD KEVIN D & WATERS ELIZABETH A	307 KULILA PL	KENAI	AK	99611
04513019	MCGAHAN RICHARD V & MICHELLE M	51840 STICKLEBACK RD	NIKISKI	AK	99611
04513057	MCKITTRICK KERRY S	300 DOLLY VARDEN ST	KENAI	AK	99611
04503015	MCMOORE KIPI	607 MAGIC AVE	KENAI	AK	99611
04503018	MCMOORE KIPI	607 MAGIC AVE	KENAI	AK	99611
04509016	MELLERSTIG JASON	3516 N POINT DR	ANCHORAGE	AK	99502
04513060	MEYER AARON T	302 DOLLY VARDEN ST	KENAI	AK	99611
04339048	MEYER JACKSON & KANDICE R		SOLDOTNA	AK	99669
04513056	MEYER PAUL B Jr	302 DOLLY VARDEN ST	KENAI	AK	99611
04511031	MEYERS MICHALE D	PO BOX 3077	KENAI	AK	99611
04523006	MINIUM TAMARA L	309 PRINCESS ST	KENAI	AK	99611
04513016	MODRELL MICHAEL J	313 KULILA PL	KENAI	AK	99611
04513017	MODRELL MICHAEL J	313 KULILA PL	KENAI	AK	99611
04503016	MOORE SHAWN EVERETTE	611 MAGIC AVE	KENAI	AK	99611
04503019	MORET SANDRA	605 MAGIC AVE	KENAI	AK	99611
04322022	MORIN KEVIN E	300 AIRPORT WAY	KENAI	AK	99611
04513027	MOULTRIE DAN R	705 MAPLE DR	KENAI	AK	99611
04505004	NATHANSON RONALD & MARCIA LYNNE	10600 LONE TREE DR	ANCHORAGE	AK	99507
04511016	O'FALLON KEVIN	36100 POACHERS COVE ST	SOLDOTNA	AK	99669
04505001	OWENS TYLE MATTHEW	308 PRINCESS ST	KENAI	AK	99611
04513012	PACHELLI LETA	3237 W FM 1585	LEVELLAND	TX	79336
04509002	PACK TRUST	6209 CALEIGH DR	CHARLESTOWN	IN	47111
04513026	PALMER JANICE I	310 KULILA PL	KENAI	AK	99611
04506016	PARRISH JOSHUA	PO BOX 643	STERLING	AK	99672
04503014	PATTERSON BOBBY N & CAROLYN	PO BOX 3515	KENAI	AK	99611
04505026	PATTON-WILSHUSEN JUSTIN LEE	304 HUTTO ST	KENAI	AK	99611
04503017	PECK LORI L	565 FUNNY RIVER RD	SOLDOTNA	AK	99669
04511008	PENNINGTON THOMAS R	9072 KENAI SPUR HWY	KENAI	AK	99611
04513061	PERKINS PATRICK	PO BOX 414	NEW DURHAM	NH	03855
04513039	PHILLIPS THOMAS	311 LINWOOD LN	KENAI	AK	99611
04505025	PIATT DANIEL O & KATHERINE C	306 HUTTO ST	KENAI	AK	99611
04513046	POSEY-SCHAVE JOSHUA	PO BOX 231	STERLING	AK	99672
04509026	POTTER JEREMIAH	PO BOX 8492	NIKISKI	AK	99635
04502001	RACE CHRISTOPHER NORMAN	2046 COUNTY ROAD Q	POUND	WI	54161
04502002	RACE CHRISTOPHER NORMAN	2046 COUNTY ROAD Q	POUND	WI	54161

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04511032	RAPP FAMILY LIVING TRUST	14307 S AVENUE 4 E	YUMA	AZ	85365
04513067	RICHMOND BILL	309 JAMES ST APT C	KENAI	AK	99611
04504011	ROGERS KAREN E	1329 PASEO HERMOSA	OCEANSIDE	CA	92056
04323002	SALAMATOF HOLDINGS LLC	PO BOX 2682	KENAI	AK	99611
04323003	SALAMATOF HOLDINGS LLC	PO BOX 2682	KENAI	AK	99611
04513024	SALVADOR CHRISANTO SURGEON Jr	1009 KAKNU WAY	KENAI	AK	99611
04513031	SALVADOR CHRISANTO SURGEON Jr	1009 KAKNU WAY	KENAI	AK	99611
04323021	SCHILLING RENTALS	47 SPUR VIEW DR	KENAI	AK	99611
04323029	SCHILLING RENTALS ALASKA PARTNERSHIP	47 SPUR VIEW DR	KENAI	AK	99611
04323019	SCHILLING RENTALS ALASKA PARTNERSHIP	47 SPUR VIEW DR	KENAI	AK	99611
04323020	SCHILLING RENTALS ALASKA PARTNERSHIP	47 SPUR VIEW DR	KENAI	AK	99611
04323031	SCHILLING RENTALS ALASKA PARTNERSHIP	47 SPUR VIEW DR	KENAI	AK	99611
04322025	SCHILLING RENTALS LLC	PO BOX 3426	KENAI	AK	99611
04322026	SCHILLING RENTALS LLC	420 N WILLOW ST	KENAI	AK	99611
04322027	SCHILLING RENTALS LLC	420 N WILLOW ST	KENAI	AK	99611
04504005	SCHMIDT KARL	409 MCCOLLUM DR	KENAI	AK	99611
04509030	SCHULZ WILLIAM	11578 W WOODY LAKE DR	WASILLA	AK	99623
04503003	SEAVEY ROSE M	704 ALIAK DR	KENAI	AK	99611
04513029	SHIELDS JACQUELINE A	303 DOLLY VARDEN ST	KENAI	AK	99611
04511011	SHIPP JAY	35555 KENAI SPUR HWY	SOLDOTNA	AK	99669
04503022	SMITH ANGELA M	PO BOX 1785	SOLDOTNA	AK	99669
04513049	SMITH LESLIE J	1611 TANAGA AVE	KENAI	AK	99611
04503023	SOARES FRANK J	PO BOX 1631	KENAI	AK	99611
04504012	SONBERG RUSSELL W & DEBORAH	410 CINDERELLA ST	KENAI	AK	99611
04504013	SONBERG RUSSELL W & DEBORAH	410 CINDERELLA ST	KENAI	AK	99611
04323022	SOUND PUBLISHING INC	PO BOX 930	EVERETT	WA	98206
04339022	STANLEY & SONS LLC	3430 SOUTHBLUFF CIR	ANCHORAGE	AK	99515
04339023	STANLEY & SONS LLC	3430 SOUTHBLUFF CIR	ANCHORAGE	AK	99515
04339049	STANLEY & SONS LLC	3430 SOUTHBLUFF CIR	ANCHORAGE	AK	99515
04339051	STANLEY & SONS LLC	3430 SOUTHBLUFF CIR	ANCHORAGE	AK	99515
04513001	STANTON THOMAS	313 DOLLY VARDEN ST	KENAI	AK	99611
04511014	STERLING CHARLES J	PO BOX 685	KENAI	AK	99611
04504015	STUART BILLY A	401 MCCOLLUM DR	KENAI	AK	99611
04513033	STURM FELIX	PO BOX 8216	NIKISKI	AK	99635
04339029	TERRAZA 10 LLC	11995 EL CAMINO REAL	SAN DIEGO	CA	92130
04705217	TKC LLC	PO BOX 969	KENAI	AK	99611
04509013	TOEPEL LLOYD W	508 JAPONSKI DR	KENAI	AK	99611
04515116	TORREY DAVID	1103 KAKNU WAY	KENAI	AK	99611
04513058	TORREY DAVID F	1103 KAKNU WAY	KENAI	AK	99611
04513030	TRIBBLE THOMAS ALLEN	PO BOX 1957	KENAI	AK	99611
04506025	TRUONG DUNG	49071 AQUARIUS AVE	SOLDOTNA	AK	99669

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04523004	TSCHMELITSCH FLORIAN	14 E CACHE LA POUDRE ST	COLORADO SPRINGS	CO	80903
04506019	TURINSKY MICHELLE L	804 MAGIC AVE	KENAI	AK	99611
04322019	VARNE THOMAS	22205 67TH PL W	MOUNTLAKE TERRACE	WA	98043
04509006	VIP PROPERTY MANAGEMENT LLC	319 ROGERS RD	KENAI	AK	99611
04502005	VROOMAN VAUGHN	408 PRINCESS ST	KENAI	AK	99611
04502006	VROOMAN VAUGHN	408 PRINCESS ST	KENAI	AK	99611
04503001	VROOMAN VAUGHN	408 PRINCESS ST	KENAI	AK	99611
04503002	VROOMAN VAUGHN	408 PRINCESS ST	KENAI	AK	99611
04513048	WALKER ELIZABETH A	314 DOLLY VARDEN ST	KENAI	AK	99611
04502007	WALKER KEVIN M & JUDY	311 MCKINLEY ST	KENAI	AK	99611
04336112	WAL-MART REAL ESTATE BUSINESS TRUST	PO BOX 8050	BENTONVILLE	AR	72716
04336108	WAL-MART TRS LLC	PO BOX 8050	BENTONVILLE	AR	72716
04336109	WAL-MART TRS LLC	PO BOX 8050	BENTONVILLE	AR	72716
04336111	WAL-MART TRS LLC	PO BOX 8050	BENTONVILLE	AR	72716
04505012	WARFLE JASON D	312 PRINCESS ST	KENAI	AK	99611
04505013	WARFLE JASON D	312 PRINCESS ST	KENAI	AK	99611
04513018	WATERS BARBARA E	311 KULILA PL	KENAI	AK	99611
04506005	WATSON JOSHUA	814 MAGIC AVE	KENAI	AK	99611
04322015	WEAVER BROTHERS INC	PO BOX 2229	KENAI	AK	99611
04509027	WHICKER SAMUEL CODY	604 MCCOLLUM DR	KENAI	AK	99611
04509019	WHITESIDE ROBIN A	506 MCCOLLUM DR	KENAI	AK	99611
04503013	WIK GLORIA J	PO BOX 2444	KENAI	AK	99611
04513014	WIK KAARLO	9199 KENAI SPUR HWY	KENAI	AK	99611
04513015	WIK KAARLO	9199 KENAI SPUR HWY	KENAI	AK	99611
04513013	WIK KAARLO & GINGER	9199 KENAI SPUR HWY	KENAI	AK	99611
04504016	WRIGHT DONALD M	406 CINDERELLA ST	KENAI	AK	99611
04504017	WRIGHT DONALD M	406 CINDERELLA ST	KENAI	AK	99611

Attachment 5 Surface Owners within 1/4 mile of the Proposed Well Pad

PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04501064	Alaska Childrens Institute for the Performing Arts	PO Box 322	KENAI	AK	99611
04318045	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04318046	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04318049	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04336033	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04336034	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04336035	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04336036	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04336051	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501030	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501031	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501037	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501038	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501039	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501040	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501041	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501042	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501043	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501044	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501045	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501046	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501047	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501048	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501049	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501050	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501051	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501052	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501053	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501054	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501055	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501056	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501057	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501058	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501059	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501060	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501062	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04501063	City of Kenai	210 Fidalgo Ave Ste 200	KENAI	AK	99611
04523013	Coates Lisa A	410 Magic Ave	KENAI	AK	99611
04336044	Five SAC Self-Storage Corporation	207 E Clarendon Ave	PHOENIX	AZ	85012

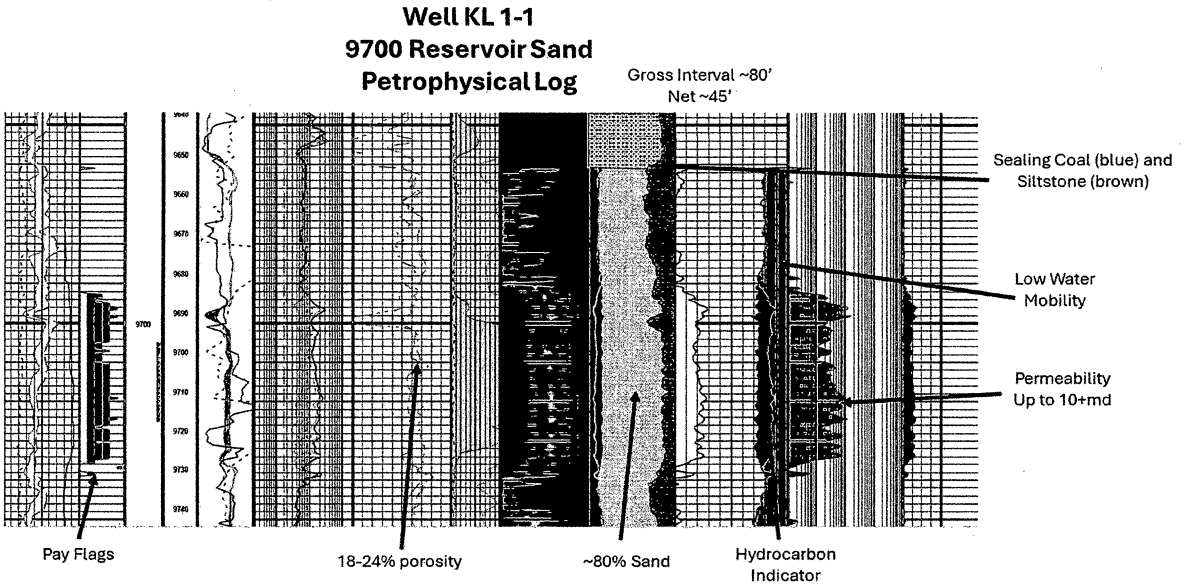
PARCEL	OWNER	MAILING ADDRESS	CITY	STATE	ZIP
04336023	Homer Electric Association Inc	3977 Lake St	HOMER	AK	99603
04503024	Johnson Richard A	603 Magic Ave	KENAI	AK	99611
04501010	Kenai PenninsulaBorough	144 N Binkley St	SOLDOTNA	AK	99669
04502003	Maki Richard I	6855 Town and Country PL	ANCHORAGE	AK	99502
04502001	Race Christopher Norman	2046 County Road Q	POUND	WI	54161
04502002	Race Christopher Norman	2046 County Road Q	POUND	WI	54161
04503022	Smith Angela M	PO Box 1785	SOLDOTNA	AK	99669
04336041	State of Alaska, DNR	550 W 7TH Ave Ste 650	ANCHORAGE	AK	99501
04502005	Vrooman Vaughn	408 Princess St	KENAI	AK	99611
04502006	Vrooman Vaughn	409 Princess St	KENAI	AK	99611
04503001	Vrooman Vaughn	408 Princess St	KENAI	AK	99611
04503002	Vrooman Vaughn	408 Princess St	KENAI	AK	99611
04336112	Wal-Mart Real Estate Business Trust	PO Box 8050	BENTONVILLE	AR	72716
04336108	Wal-Mart Trs LLC	PO Box 8050	BENTONVILLE	AR	72716

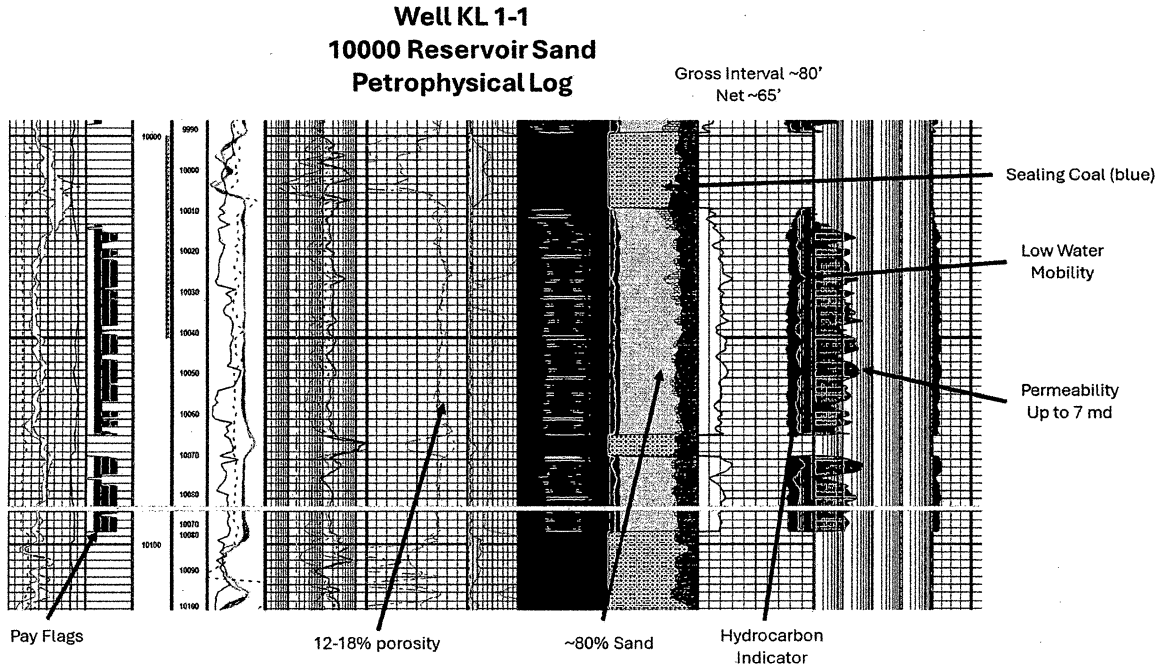
Attachment 6 Structure Map of Top 9700 Surface (1 of 2)

Attachment 6 Structure Map of Top 10000 Surface (2 of 2)

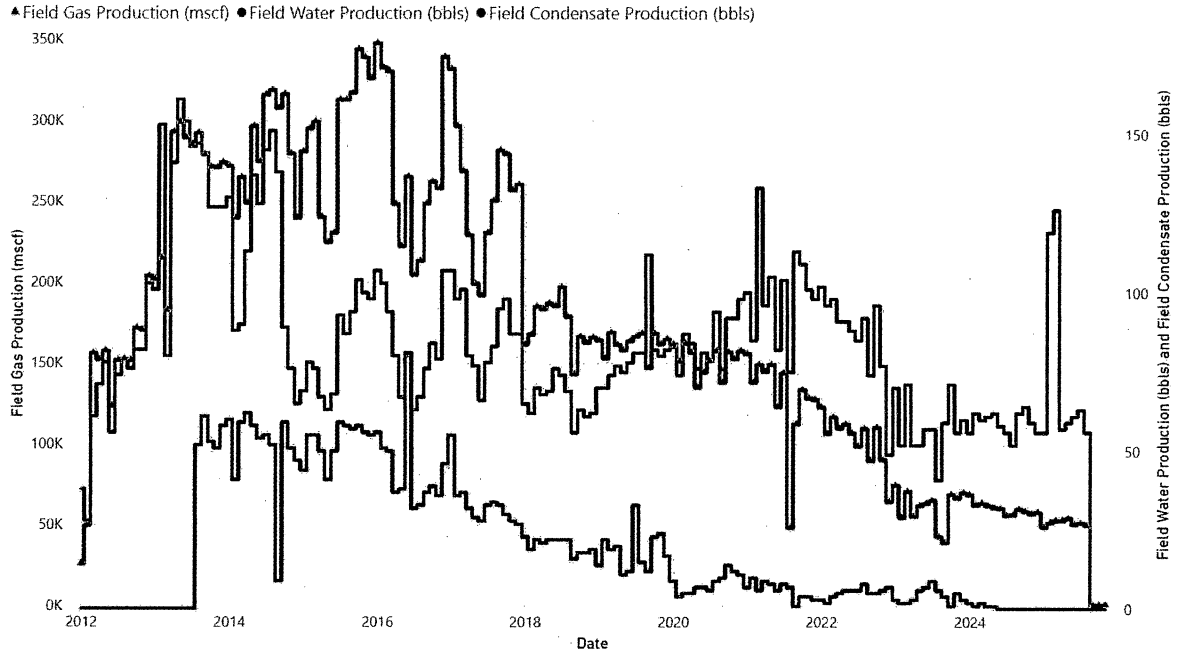
Attachment 7 Petrophysical Log of Type Well KL 1-1

(See Attachment 18 for full log and scale information)

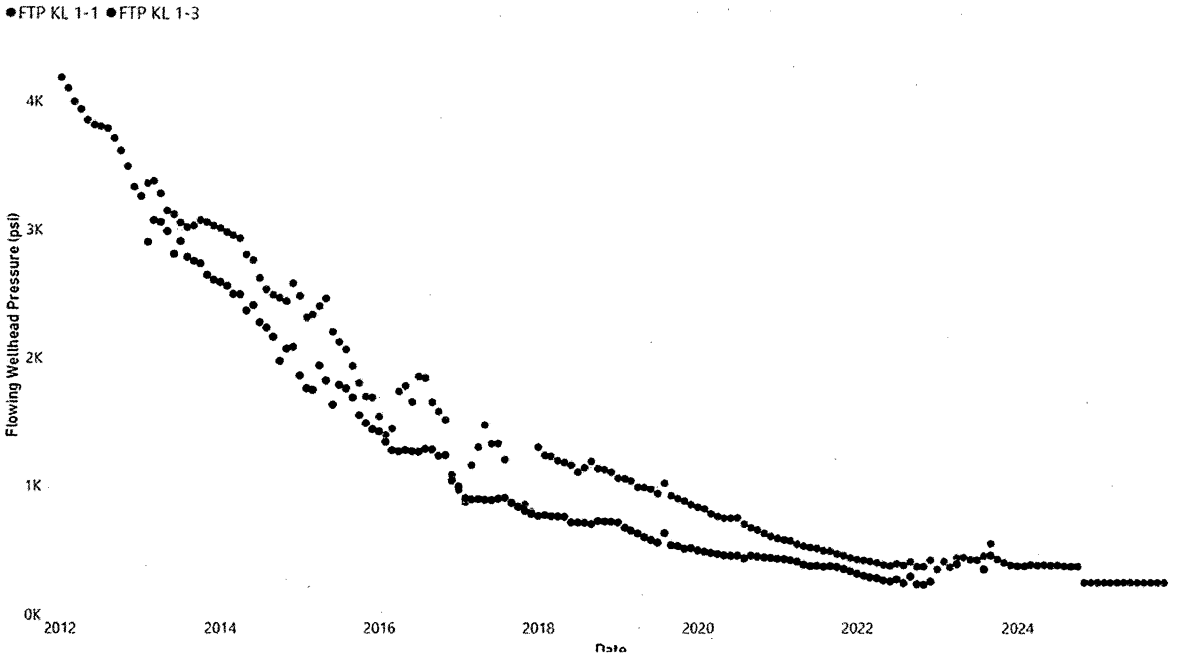




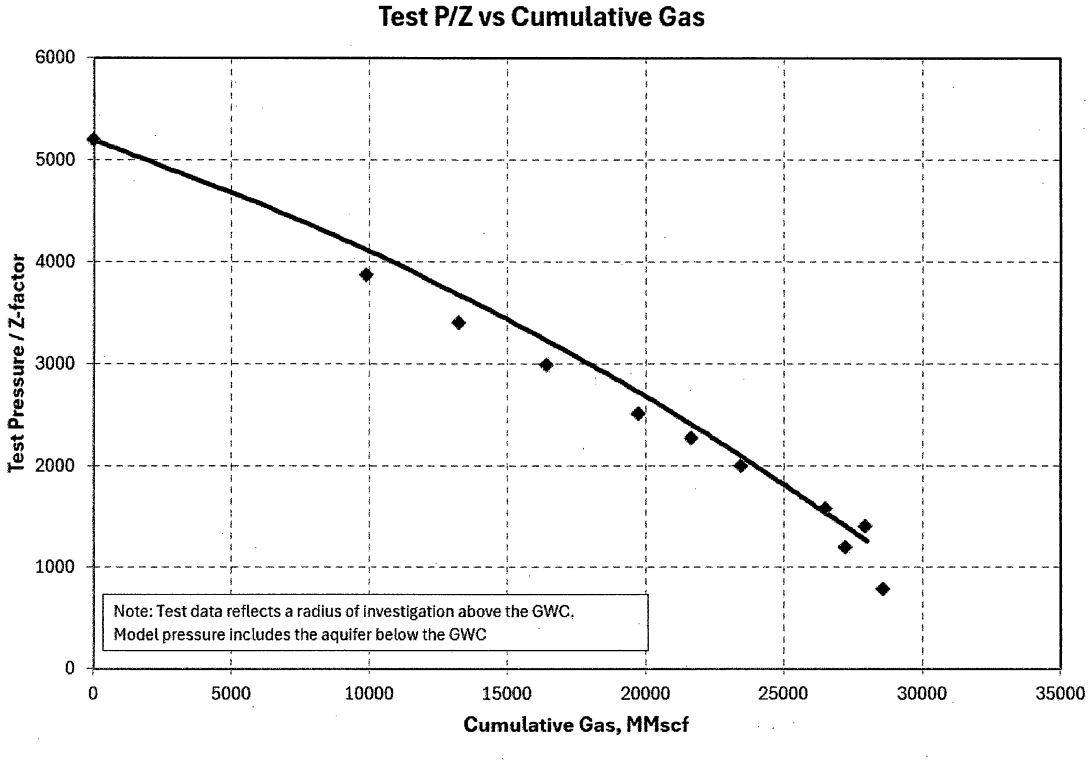
Attachment 8 Tyonek Gas Pool Production History (through 10/2025)



Flowing Tubing Head Pressure History

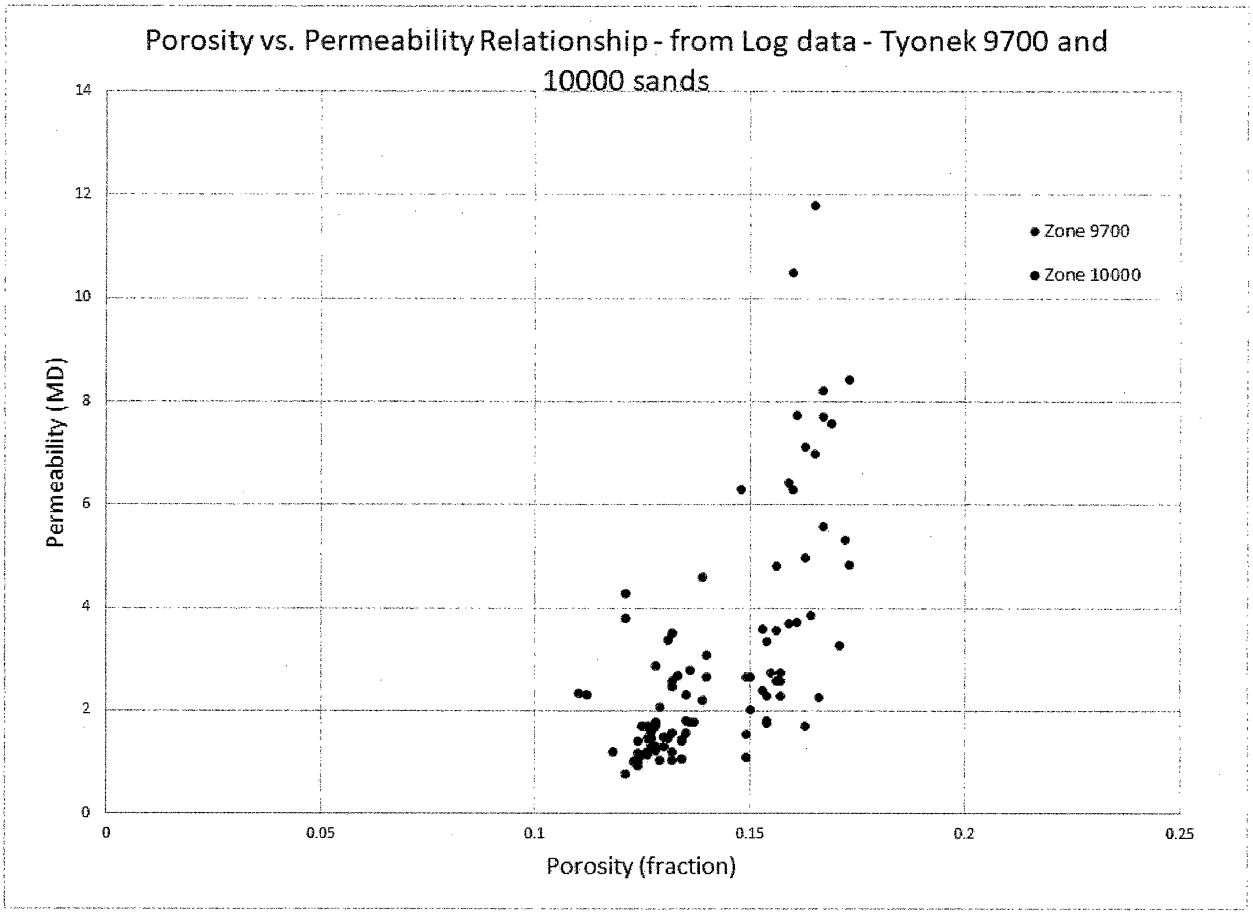


Attachment 9 Tyonek Production/Pressure Decline Curve (P/Z) for Material Balance Analysis



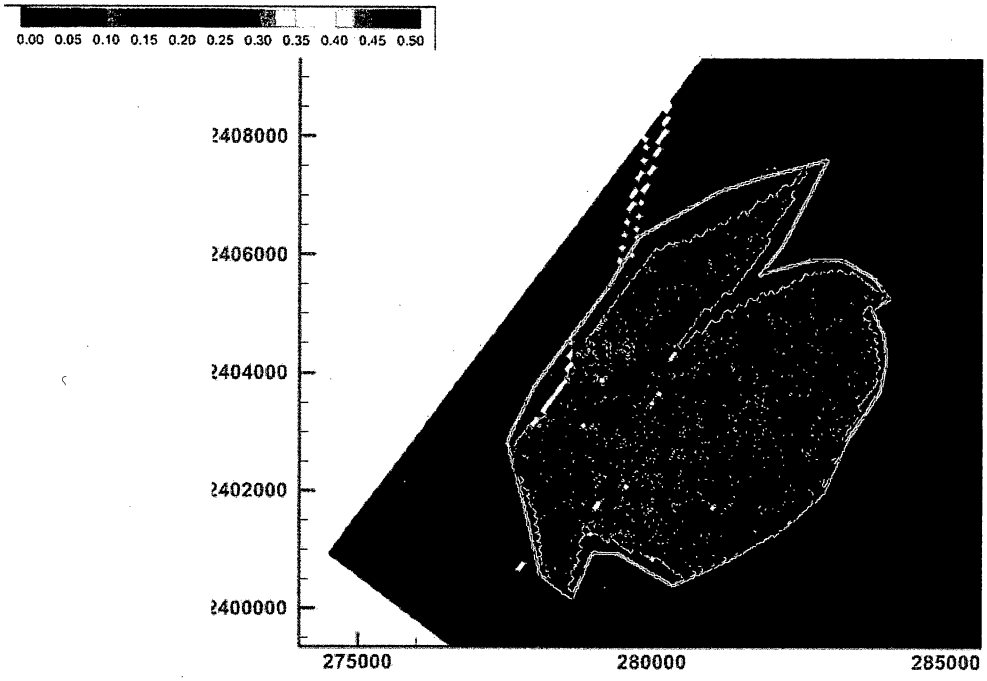
Year	Month	Day	Cum Gas Prod (bcf)	Pres (psi)	Z Factor	P/Z
2011	January	1	0	5396	1.039	5192
2015	June	25	9.7	3615	0.933	3874
2016	May	3	13.0	3115	0.914	3406
2017	June	1	16.3	2708	0.905	2993
2018	Septembe	15	19.6	2268	0.901	2517
2019	Septembe	10	21.5	2047	0.902	2270
2020	Septembe	2	23.3	1817	0.905	2007
2022	Septembe	12	26.4	1446	0.915	1580
2023	August	21	27.2	1116	0.928	1202
2024	July	29	28.0	1296	0.920	1408
2025	October	9	28.6	746	0.948	788

Attachment 10 Effective Porosity – Permeability Cross Plot

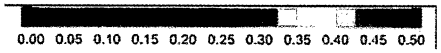


Attachment 11 Approximate Areal Extent of Gas Saturation in the Tyonek Pool

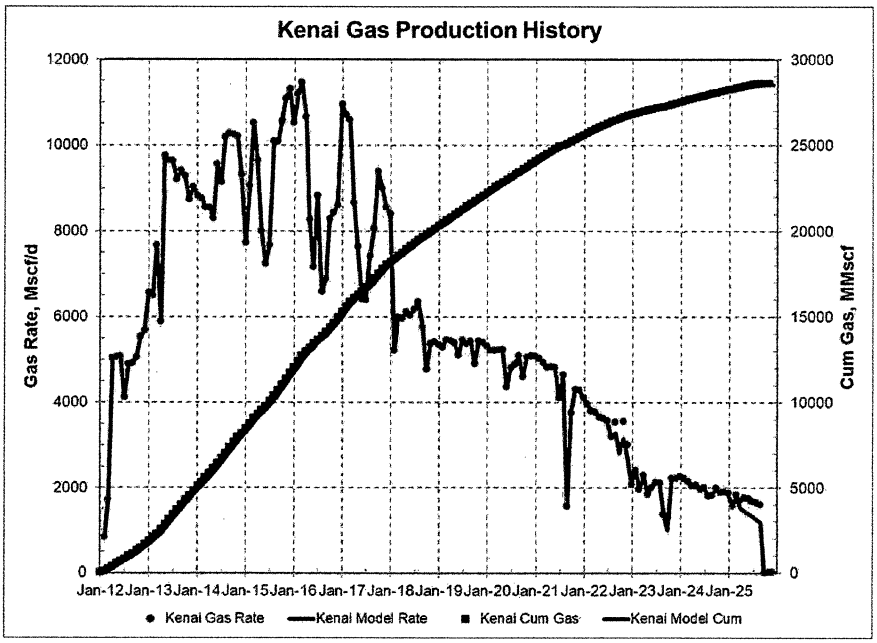
9700 Sand – Gas Saturation

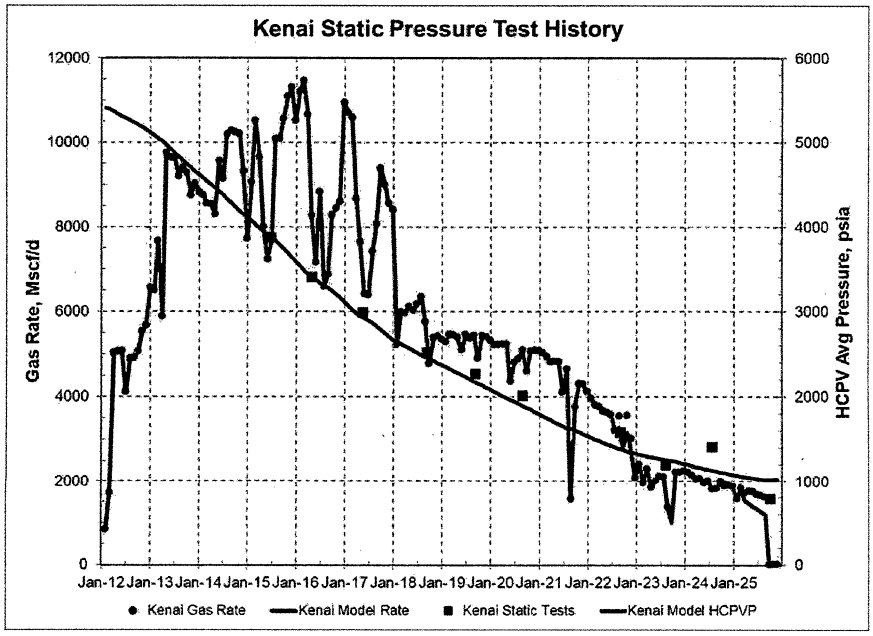


10000 Sand – Gas Saturation



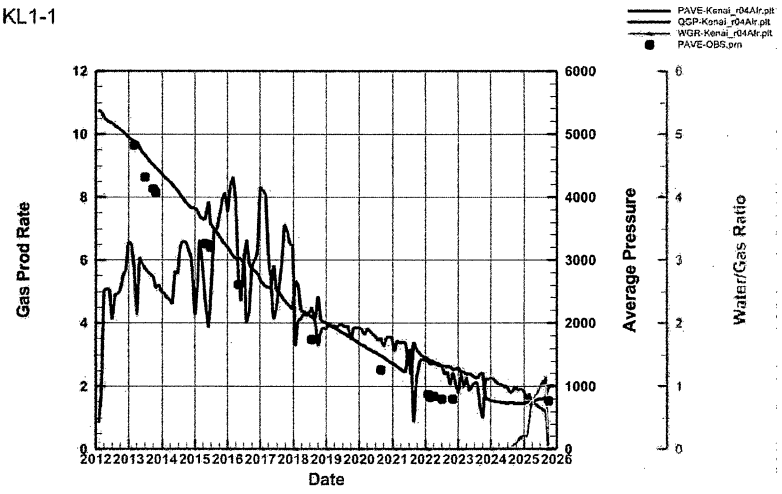
Attachment 12 Gas Production and Reservoir Pressure: Historical data versus Simulated Data



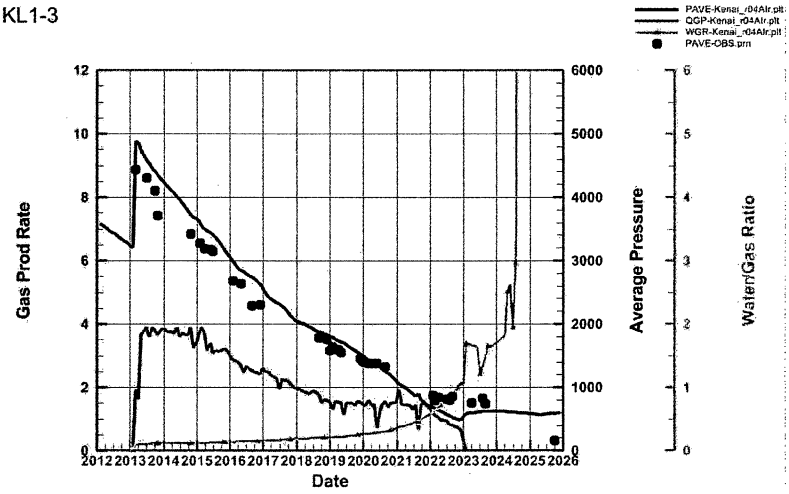


Attachment 13 Surface and Datum Pressures: Historical data versus Simulated Data

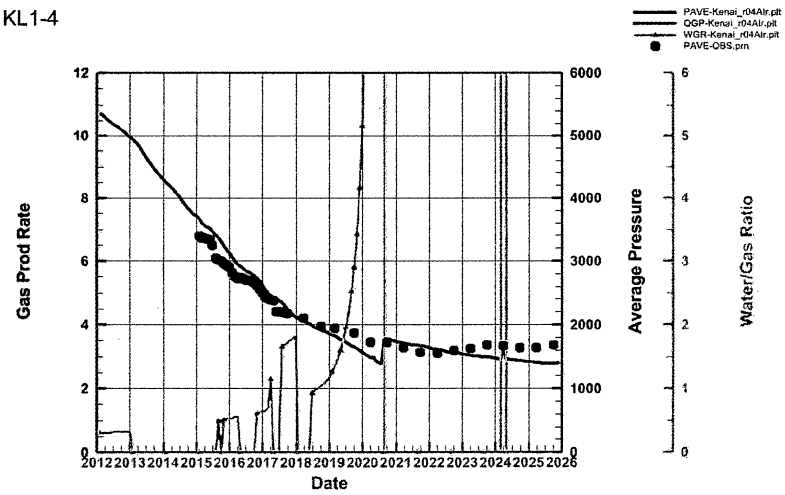
KL1-1



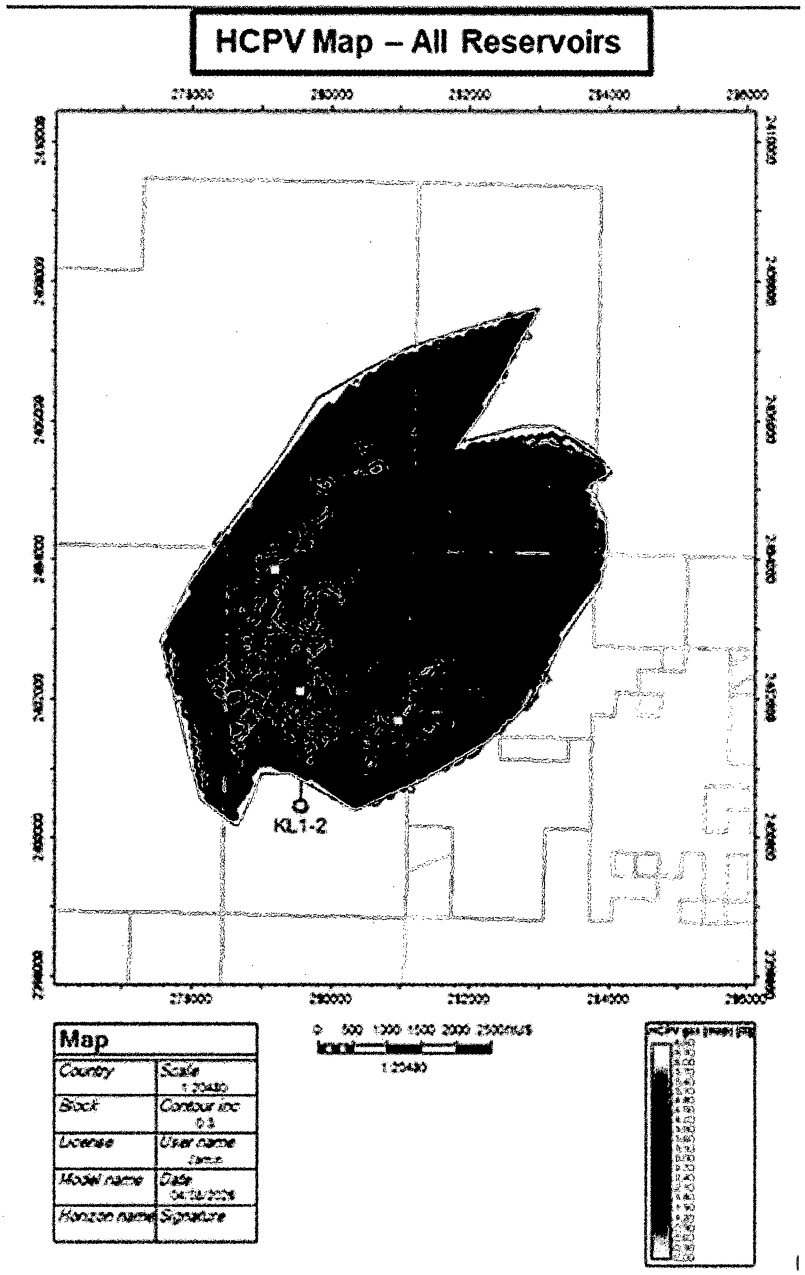
KL1-3



KL1-4

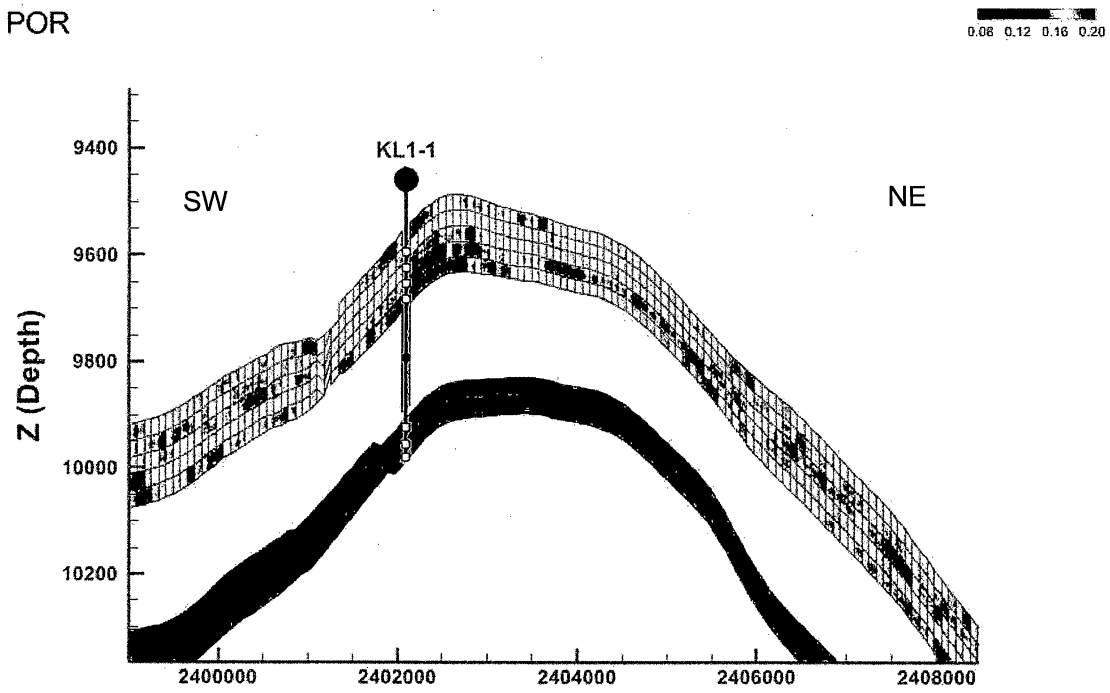


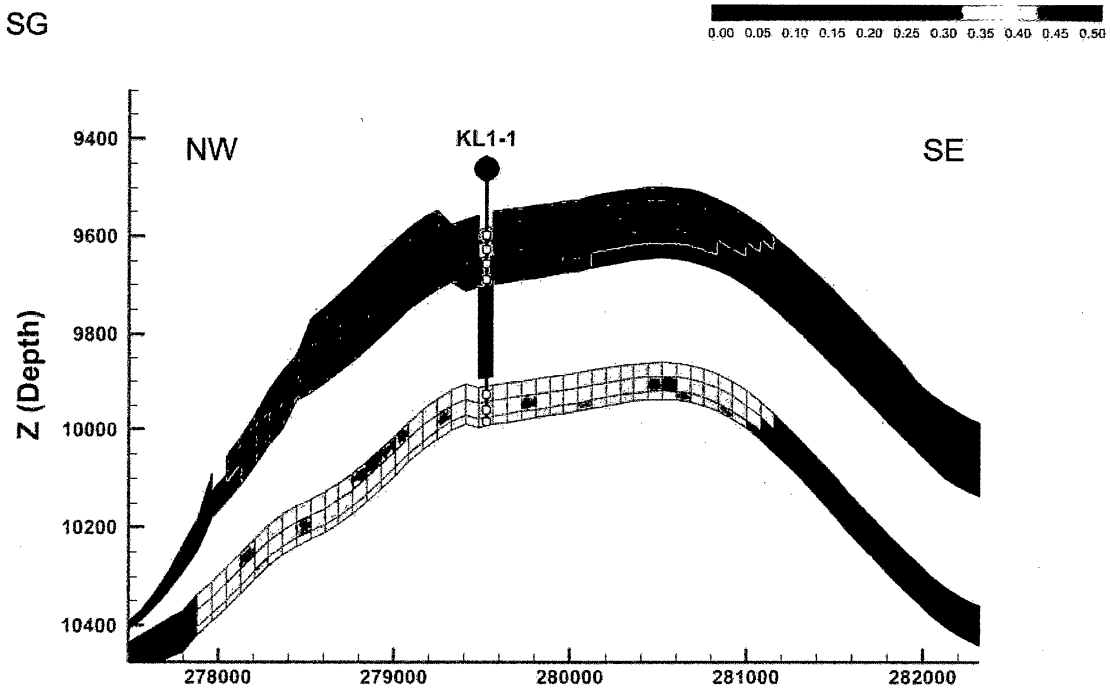
Attachment 14 Combined Effective Pore Volume From All Zones Within The Tyonek Interval



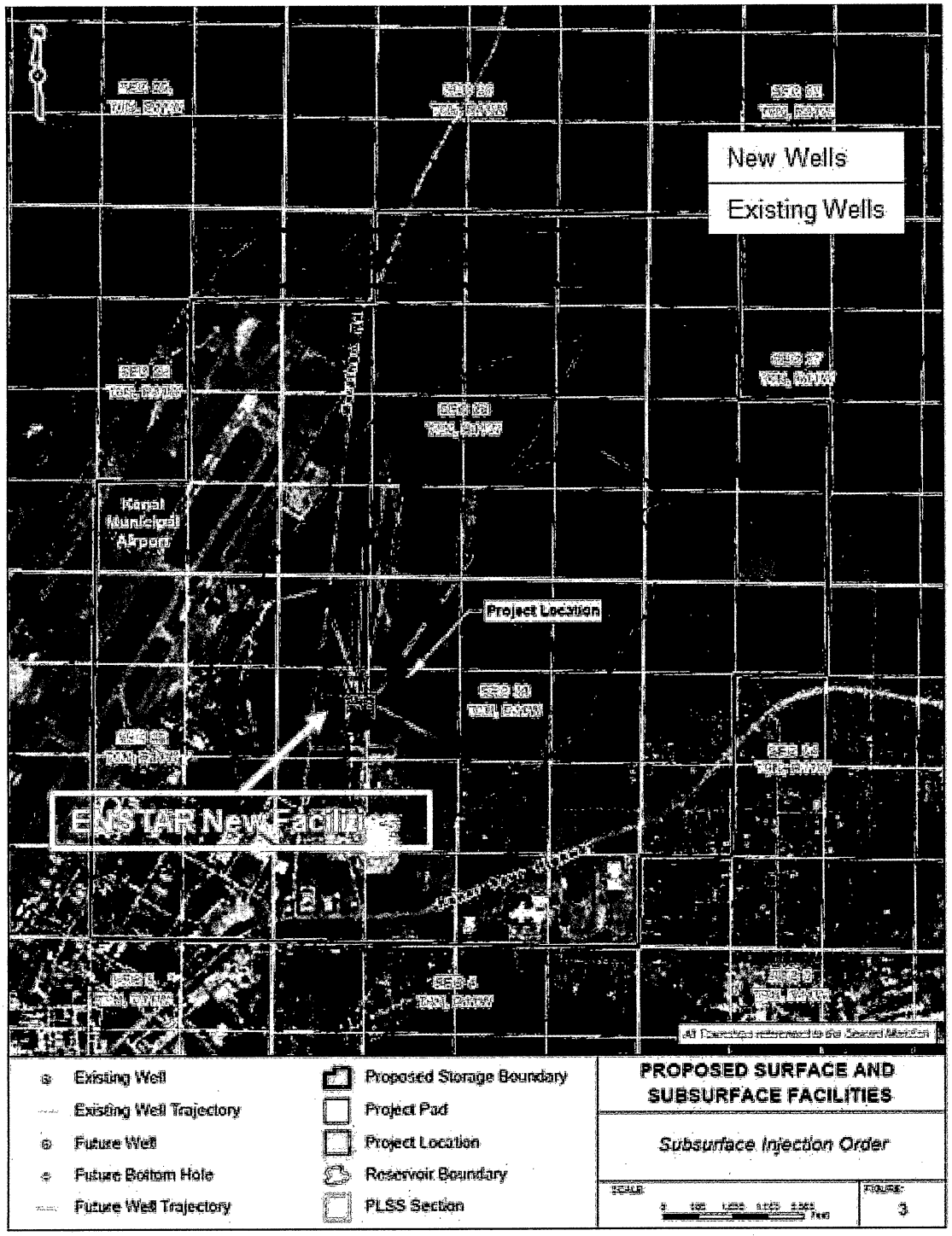
Zone	Porosity (frac	Permeability (md)	NTG (frac)	Gas Saturation (frac)	IGIP (bcf)
9700	0.16	7.68	0.53	0.17	12.97
10000	0.14	3.54	0.77	0.62	19.33
				Total IGIP (bcf)	32.3

Attachment 15 KL Reservoir Model – Porosity (POR) and Gas Saturation (SG)

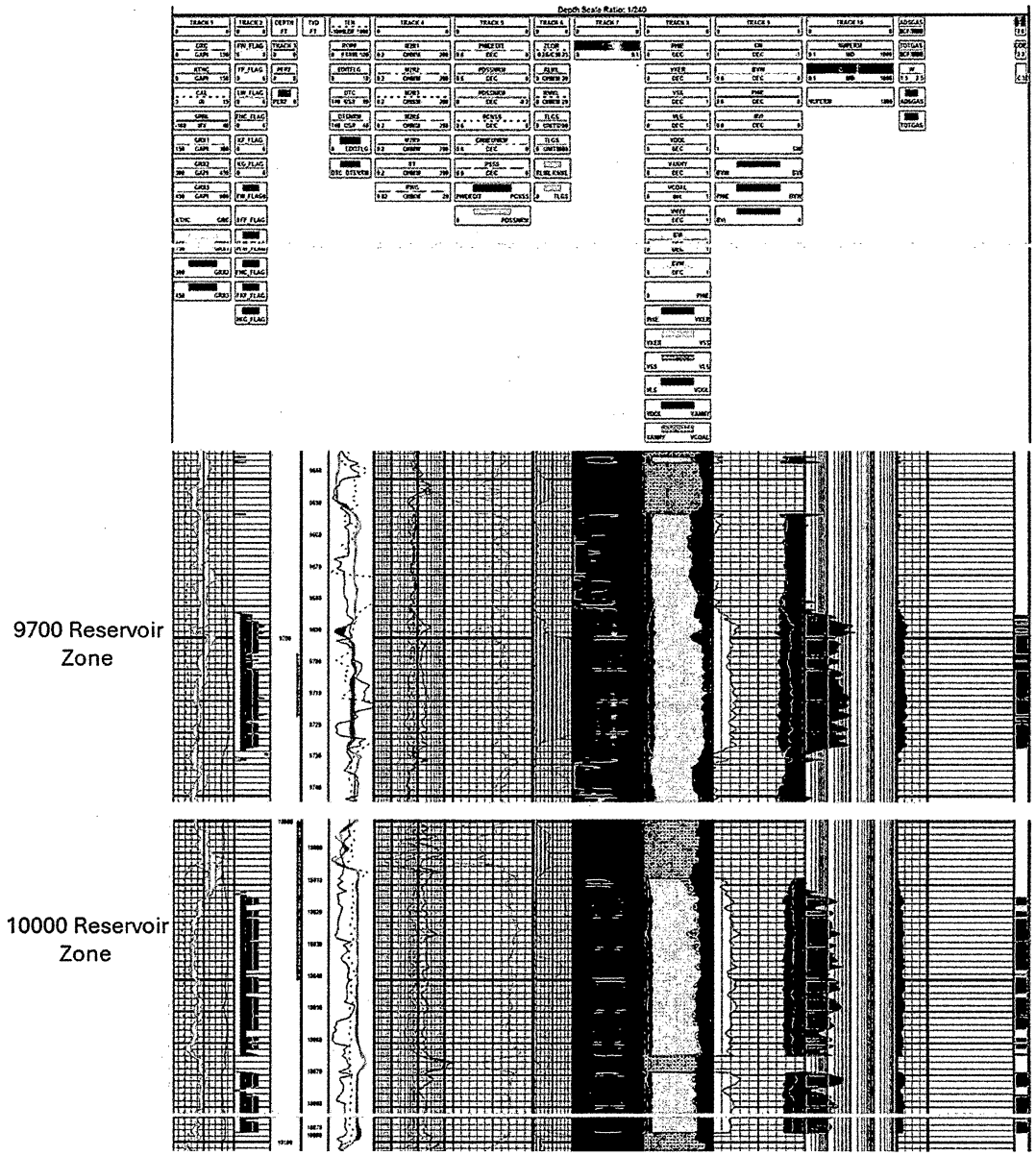




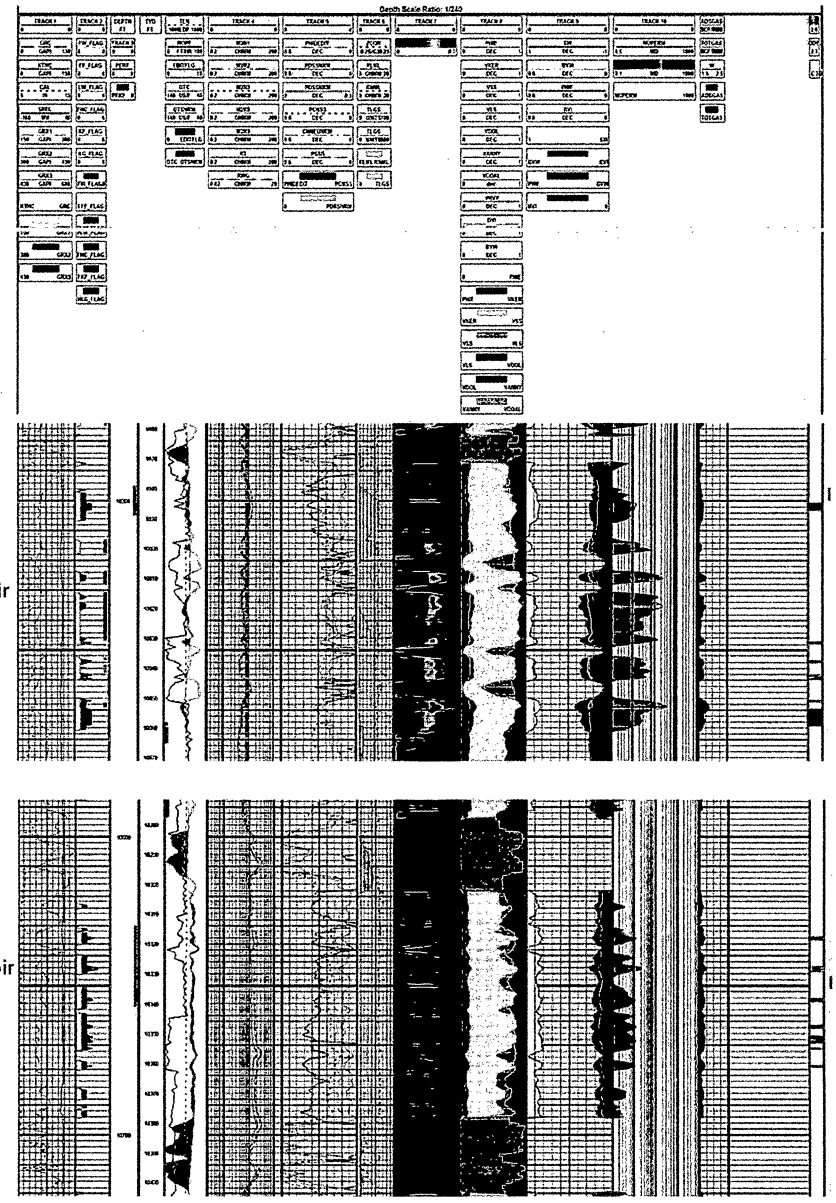
Attachment 16 Storage Design – Well Drilling and Completion Program



Attachment 17 KL 1-1: Petrophysical Logs over the Tyonek interval



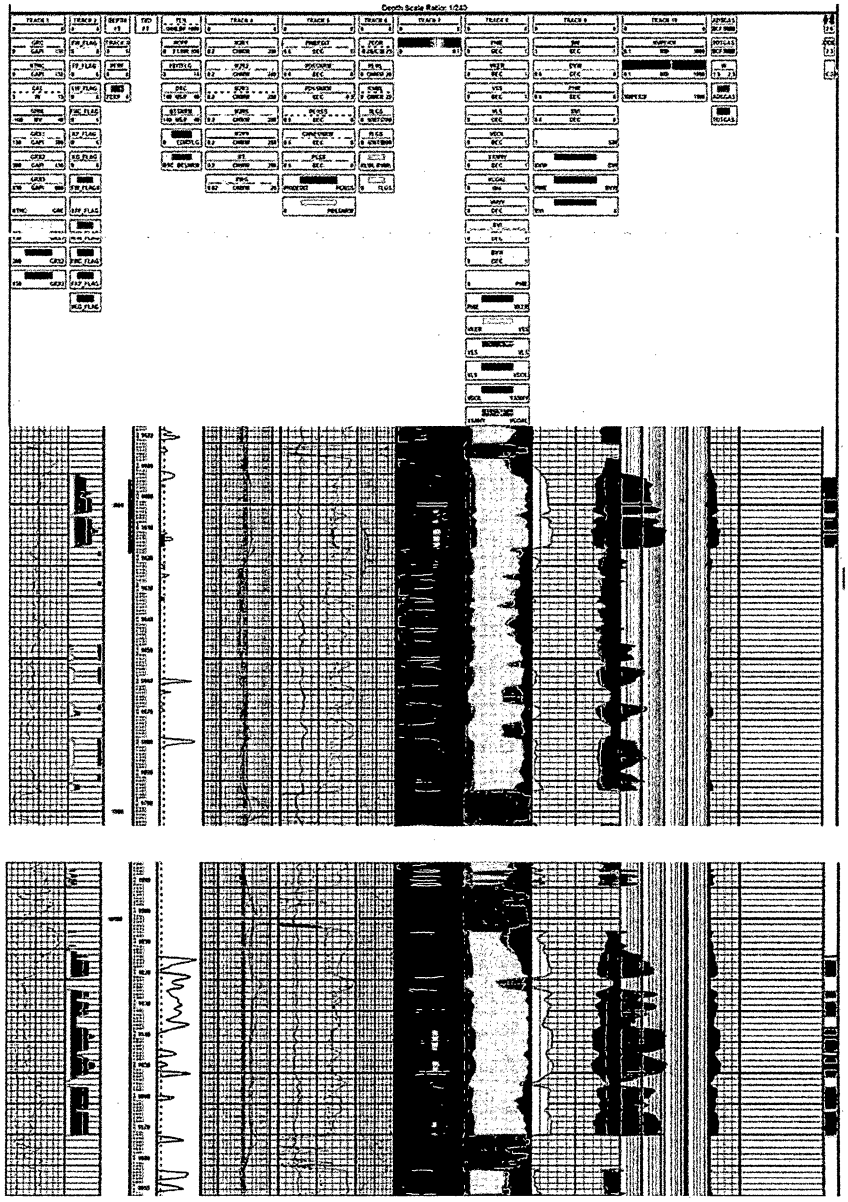
Attachment 18 KL 1-3: Petrophysical Logs over the Tyonek interval



9700 Reservoir Zone

10000 Reservoir Zone

Attachment 19 KL 1-4: Petrophysical Logs over the Tyonek interval



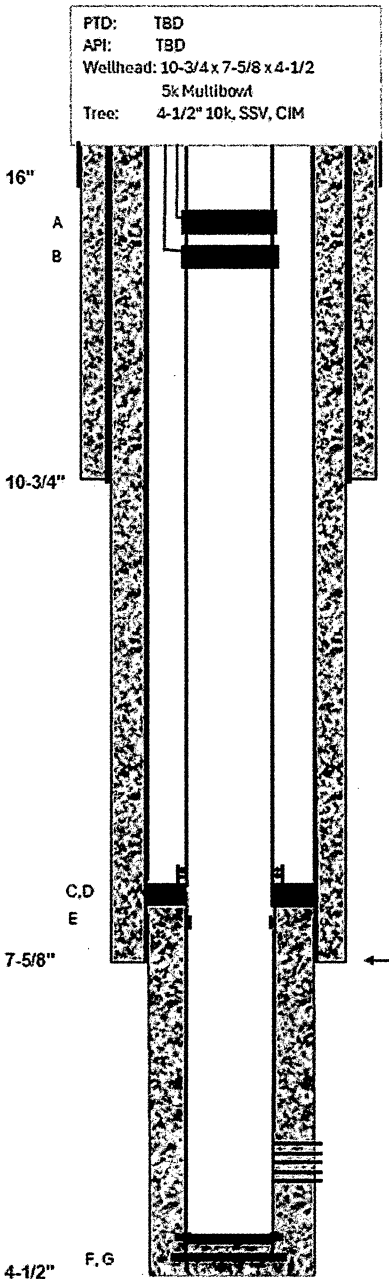
9700 Reservoir Zone

10000 Reservoir Zone

Attachment 20 ENSTAR "Type Well" Casing/Completion Design

Kenai Loop Type Well

Proposed Schematic



**intermediate casing to be set below confining layer

Casing / Tubing Detail

Size	Type	Wt	Grade, XN	ID	Top MD	Btm MD	Btm TVD
16"	Conductor		N-80		0'	+/- 150'	+/- 150'
10-3/4"	Surface	45.5#	L-80, BTC	9.950"	0'	+/- 3200'	+/- 3000'
7-5/8"	Intermediate	29.7#	L-80, VAM	6.875"	0'	+/- 9700'	+/- 9200'
4-1/2"	Liner	12.6#	L-80, TBD	6.276"	+/-9500	+/- 11500'	+/- 10500'
4-1/2"	Tubing	12.6#	L-80, TBD	6.276"	0'	+/- 9500'	+/- 9000'

*actual depths will vary due to directional well paths

Cement Detail

10-3/4"	Cement to surface
7-5/8"	Cement to surface, 2-stage
4-1/2"	Cement to top of liner

Jewelry Detail

Item	Description	ID	OD	Depth, MD
A	4-1/2" Baker ONYX TR-SSSV, 0.25" control line	3.812"	5.970"	+/-300'
B	4-1/2" chem injection sub, 0.25" control line			+/- 400'
C	Seal assembly landed in PBR			+/-9500'
D	5-1/2" x 7-5/8" liner top packer & liner hanger			+/-9500'
E	X nipple	NA		+/-9600'
F	Landing Collar	NA		+/-11420'
G	Float Shoe	NA		+/-11500'

Perforation Detail

Sand	Top (MD)	Btm (MD)	Top (TVD)	Btm (TVD)	FT	Date
Tyonek			+/- 9700'	+/- 10500'	TBD	

*actual depths will vary due to directional well paths

PBTD = 11,200' MD / 10,400' TVD
TD = 11,500' MD / ~10,500' TVD

Last Rev: 3/17/2026
By: Jake Flora

Attachment 21 Cook Inlet Pipeline Gas Compositional Analysis

REPRESENTATIVE GAS COMPOSITIONS OF THOSE PROVIDED BY ENSTAR FROM THEIR COOK INLET METER STATIONS

	Beluga Large Pipe MSN 170			Enstar MSN 500			Beaver Creek MSN 1100			KPL Junction MSN 406			Enstar KKPL MSN 600		
	87 °F	85 °F		36 °F	51 °F		45 °F	38 °F		27 °F	61 °F		38 °F	40 °F	
	816 PSIG 07/29/09	950 PSIG 01/18/06	Average	608 PSIG 01/02/09	570 PSIG 07/08/08	Average	662 PSIG 07/10/09	620 PSIG 01/26/09	Average	732 PSIG 01/31/09	658 PSIG 07/17/08	Average	610 PSIG 07/01/09	600 PSIG 8/6/2007	Average
N_2	0.528	0.558	**0.543**	0.236	0.315	**0.276**	0.159	0.156	**0.158**	1.125	1.165	**1.145**	0.363	0.300	**0.332**
CO_2	0.545	0.570	**0.558**	0.308	0.251	**0.280**	0.330	0.338	**0.334**	0.326	0.358	**0.342**	0.253	0.283	**0.268**
C_1	98.863	98.785	**98.824**	99.233	99.226	**99.230**	99.255	99.325	**99.290**	97.684	98.187	**97.936**	99.151	99.197	**99.174**
C_2	0.063	0.079	**0.071**	0.151	0.166	**0.159**	0.145	0.124	**0.135**	0.317	0.176	**0.247**	0.178	0.158	**0.168**
C_3	0.000	0.000	**0.000**	0.039	0.035	**0.037**	0.066	0.033	**0.050**	0.234	0.066	**0.150**	0.040	0.038	**0.039**
i-C_4	0.000	0.000	**0.000**	0.012	0.000	**0.006**	0.021	0.015	**0.018**	0.074	0.015	**0.045**	0.010	0.009	**0.010**
n-C_4	0.000	0.000	**0.000**	0.000	0.000	**0.000**	0.017	0.000	**0.009**	0.123	0.029	**0.076**	0.000	0.000	**0.000**
i-C_5	0.000	0.000	**0.000**	0.000	0.000	**0.000**	0.000	0.000	**0.000**	0.046	0.000	**0.023**	0.000	0.000	**0.000**
n-C_5	0.000	0.000	**0.000**	0.000	0.000	**0.000**	0.000	0.000	**0.000**	0.041	0.000	**0.021**	0.000	0.000	**0.000**
C_6+	0.000	0.009	**0.005**	0.021	0.009	**0.015**	0.007	0.009	**0.008**	0.030	0.004	**0.017**	0.005	0.015	**0.010**
Total	99.999	100.001	**100.000**	100.000	100.002	**100.001**	100.000	100.000	**100.000**	100.000	100.000	**100.000**	100.000	100.000	**100.000**
MW	16.267	16.287	**16.277**	16.210	16.189	**16.200**	16.213	16.195	**16.204**	16.533	16.346	**16.440**	16.200	16.205	**16.203**
Sp.Gr.	0.5616	0.5623	**0.5620**	0.5597	0.5590	**0.5594**	0.5598	0.5592	**0.5595**	0.5708	0.5644	**0.5676**	0.5594	0.5595	**0.5595**
BTU/SCF	996.5	1,001.9	**999.2**	1,004.2	1,003.3	**1,003.8**	1,005.1	1,004.0	**1,004.6**	1,006.4	995.0	**1,000.7**	1,003.0	1,009.0	**1,006.0**
Tot. C_3+	0.000	0.009	**0.005**	0.060	0.044	**0.052**	0.073	0.042	**0.058**	0.264	0.070	**0.167**	0.045	0.053	**0.049**

Attachment 22 KL 1-3 (KL #4) Produced water (DST) Analysis

Table 1: Sample Summary

Sample ID	Sampling conditions		MD (ft)	Field pH	Field Chlorides (mg/L)	Sample Type	Sample Comments
	Date	Time					
P118-1.01	12/29/2012	0:15	12670	8.1	8,200	Formation	black fines
P118-1.02	12/29/2012	20:45	12670	7.3	2,800	Formation	black fines
P118-1.03	12/30/2012	18:15	12589	7.2	8,000	Formation	black fines
P118-1.04	1/1/2013	8:50	11920	8.2	17,000	Formation	amber with black fines
P118-1.05	1/2/2013	16:40	11920	7.2	2,400	Formation	black fines
P118-1.06	1/3/2013	14:10	11926	7.1	1,300	Formation	amber with black fines
P118-1.07	1/3/2013	14:10	11926	7.1	1,300	Formation	amber with black fines

Table 2: Basic Water Properties

Sample ID	Density (g/cc)	Total Alkalinity (mg/L)	pH (@20°C)	Resistivity (Ohm-m @20°C)	Conductivity (mS/cm @ 20°C)	TDS (by Conductivity) (mg/L)
P118-1.01	1.0135	5955	7.80	0.4916	20.34	18020
P118-1.02	1.0085	5483	7.73	0.8110	12.33	11900
P118-1.03	1.0123	5285	8.21	0.5559	17.99	15660
P118-1.04	1.0195	4285	7.55	0.2874	34.80	25520
P118-1.05	1.0081	5076	7.55	0.8130	12.30	11196
P118-1.06	1.0067	4953	7.50	1.049	9.530	10920
P118-1.07	1.0067	4444	7.55	1.035	9.660	9576

Attachment 23 Kenai Loop Unit – Well Details

Kenai Loop Wells

Well Name	Permit to Drill	API Number	Original Operator	Current Operator	Pad Location	Date Drilled	Date Completed	Total Depth MD, ft	Total Depth TVD, ft	Formation Completed	Current Status
Kenai Loop 1-1	211-043	50-133-20595	Buccaneer	AIX	Pad 1	4/15/11	5/23/11	10,678	10,573	Tyonek	Shut In
Kenai Loop 1-2	211-097	50-133-20597	Buccaneer	AIX	Pad 1	8/26/11	10/12/11	11,368	11,000	Tyonek, Beluga	Suspended
Kenai Loop 1-3	212-074	50-133-20602	Buccaneer	AIX	Pad 1	9/11/12	1/12/13	13,083	12,765	Tyonek	Shut In
Kenai Loop 1-4	213-091	50-133-20168	Buccaneer	AIX	Pad 1	8/6/13	10/5/13	11,396	11,198	Tyonek	Shut In

Attachment 24 Well Integrity Summary

Well:	Kenai Loop 1-1	Shut In (Upper Tyonek)
PTD:	211-043	

10-3/4"	Surface	Set at 3057' MD / 3055' TVD
		Cemented with 565 bbls 12.0 ppg cement, **44 bbls cmt to surface**
		10-3/4" has cement across all ANR zones of interest by visual and logging confirmation
7-5/8"	Intermediate	Set at 8024' MD / 8021' TVD
		Cemented with 126 bbls 13.5# lead, 52 bbls 15.8# tail
		Casing pressure test to 2500 psi passed
		Cement confirmed with CBL (5/19/11), **TOC at 5000'**
		7-5/8" has cement across all ANR zones of interest by calculation and logging confirmation
4-1/2"	Liner	Set from 7,892' MD / 7888' TVD to 10,676' MD / 10,665' TVD
		Cemented with 141 bbls 15.8 ppg, 1.18 yield Class G, **circulated cement off TOL**
		Cement confirmed with CBL (5/19/11) EXPRO CBL
		4-1/2" has cement across all ANR zones of interest by visual and logging confirmation

X Sufficient zonal isolation for storage operations - CBL
X Sufficient casing strength for storage operations

Well:	Kenai Loop 1-2	Plugged Back / Suspended (Beluga, Upper Tyonek)

10-3/4"	Surface	Set at 3027' MD / 3026' TVD
	45.5 #	**Cemented to surface** with 449 bbls cement
		Cement confirmed with CBL (9/2/11)
		10-3/4" has cement across all ANR zones of interest by visual and logging confirmation
7-5/8"	Intermediate	Set at 8330' MD / 7969' TVD
	29.7#	Cemented with 101 bbls 13.5# lead, 49 bbls 15.8# tail, full returns
		Casing pressure test to 3800 psi passed
		Cement confirmed with CBL (9/16/11), **WBD estimates has TOC at 4850' MD**
		7-5/8" has cement across all ANR zones of interest by calculation and logging confirmation
4-1/2"	Liner	Set from 8100' MD / 7631' TVD to 11368' MD / 11000' TVD
	12.6#	Cemented with 102 bbls 15.8 ppg, **10 bbls circulated cement off TOL**
		Cement confirmed with CBL (10/6/11)
		4-1/2" has cement across all ANR zones of interest by visual and logging confirmation

Sufficient zonal isolation for storage operations - CBL
Well does not intersect the gas storage reservoir
Well was permitted in 2012 for Class II disposal in the Sterling & Beluga formations per AEO 15 and remains a candidate for this use in the future.

Well:	Kenai Loop 1-3	Shut In (Upper Tyonek)
PTD:	212-074	
10-3/4"	Surface	Set at 3024' MD / 3024' TVD Cemented with 300 bbls cement to surface Cement confirmed visually and with CBL (10/1/12) 10-3/4" has cement across all ANR zones of interest by visual and logging confirmation
7-5/8"	Intermediate	Set at 8609' MD / 8305' TVD Cemented with 252 bbls 15.8# Class G, full returns TOC confirmed at 3624' with CBL (10/14/12) 7-5/8" has cement across all ANR zones of interest by calculation and logging confirmation
4-1/2"	Liner	Set from 8339' MD / 8023' TVD to 13035' MD / 12717' TVD Cemented with 408 bbls 15.8 ppg, Class G, **circulated 89 bbls cement off TOL.** Liner would not pressure test, found leak at 8650-8700', squeezed, successfully pressure tested to 2500 psi. Cement confirmed with CBL (11/20/12) 4-1/2" has cement across all ANR zones of interest by visual and logging confirmation

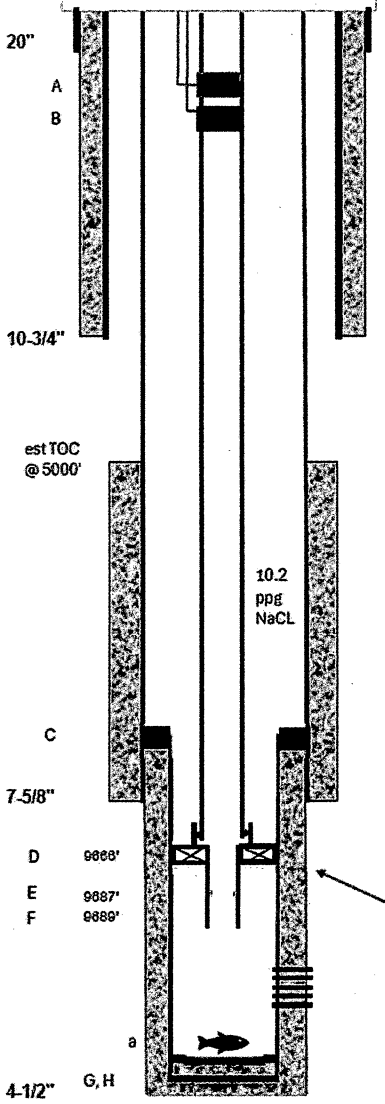
Sufficient zonal isolation for storage operations - CBL
Sufficient casing strength for storage operations

Well:	Kenai Loop 1-4	Shut In (Upper Tyonek)
PTD:	213-091	
10-3/4"	Surface	Set at 3057' MD / 3051' TVD Cemented with 304 bbls cement to surface Cement confirmed visually and with CBL (8/15/13) 10-3/4" has cement across all ANR zones of interest by visual and logging confirmation
7-5/8"	Intermediate	Set at 9474' MD / 9277' TVD Cemented with 249 bbls 15.8# Class G, full returns Casing pressure test to 4000 psi passed TOC confirmed at 5520' with CBL (9/6/13) 7-5/8" has cement across all ANR zones of interest by calculation and logging confirmation
4-1/2"	Liner	Set from 9273' MD / 9076' TVD to 11396' MD / 11198' TVD Cemented with 82 bbls 15.8 ppg cement, plug did not bump. Logged CBL 9/22/13, **squeezed liner lap**, logged CBL 9/29/13, liner fully cemented Cement confirmed with CBL (9/29/13) 4-1/2" has cement across all ANR zones of interest by visual and logging confirmation

Sufficient zonal isolation for storage operations - CBL
Sufficient casing strength for storage operations

Attachment 25 KL 1-1 – Well Schematic

PTD: 211-043
API: 50-133-20595-00-00
Wellhead: FMC 10-3/4 x 7-5/8 x 2-7/8 5k Multibowl 235
Tree: FMC 2-9/16" 5k, SSV, CIM
GL: 134'
KB: 155'



Wireline Set Permanant Packer (Millable)

PBTD = 10585' MD / 10573' TVD
TD = 10,678' MD / 10,667' TVD

Kenai Loop 1-1

Current Schematic

Spud: 4/15/2011
Last Completion: 5/30/2011

Casing / Tubing Detail

Size	Type	Wt	Grade, XN	ID	Top MD	Btm MD / TVD
16"	Conductor		N-80		0'	138' / 138'
10-3/4"	Surface	45.5#	L-80, BTC	9.950"	0'	3057' / 3055'
7-5/8"	Intermediate	29.7#	L-80, VAM	6.875"	0'	8024' / 8021'
4-1/2"	Liner	12.6#	L-80, TCII	8.276"	7892'	10676' / 10665'
2-7/8"	Tubing	6.5#	L-80, EUE	2.347"	0'	9868' / 9859'

Cement Detail

10-3/4"	554 bbls 12.0 ppg cement, 44 bbls cmt to surface, 4/29/11 EXPRO CBL
7-5/8"	126 bbls 13.5# lead, 52 bbls 15.8# tail, 5/19/11 EXPRO CBL (WBD note est at 5000') *LOCATE*
4-1/2"	141 bbls 15.8 ppg, 1.18 yield Class G, circulated cement off TOL, 5/19/11 EXPRO CBL *LOCATE*

Jewelry Detail

Item	Description	ID	Depth, Top
A	2-7/8" Chemical Injection Mandrel, 0.25" CL		454'
B	2-7/8" TR-SSSV, Baker TE-5, 0.25" CL		536'
C	5-1/2" x 7-5/8" Baker ZXP Packer, FlexLock III LH		7892' MD, 7888' TVD
D	4-1/2" Baker Model D Packer w seal assembly, WL set		9868' MD 9859' TVD
E	1.875" XN nipple		9687'
F	Tubing tail, 2-3/8" cut off tubing		9689'
G	Landing Collar	NA	10951'
H	Float Shoe	NA	10676'

Fish Detail

Item	Description	Date	TOF
a	tubing tail with 2 bridge plugs cut off and dropped		10240' est

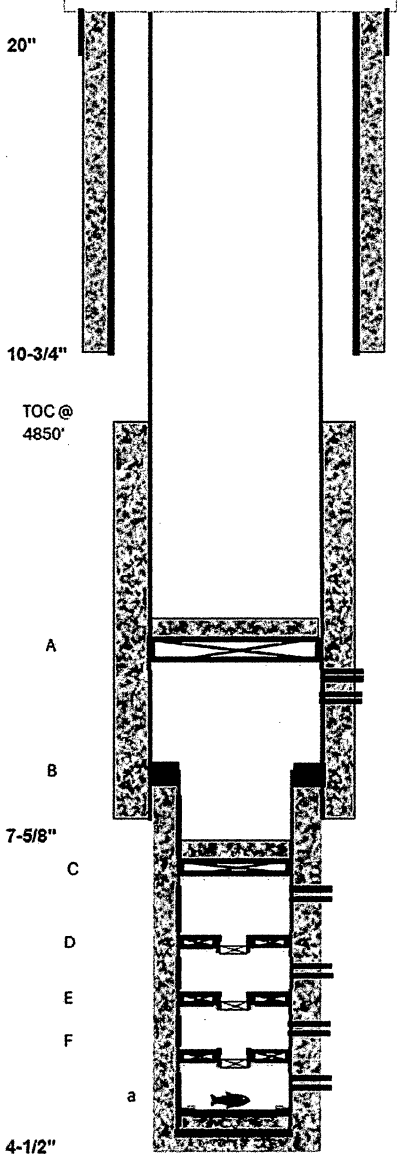
Perforation Detail

Sand	Top (MD)	Btm (MD)	Top (TVD)	Btm (TVD)	FT	Date
Tyonek	9705'	9725'	9698'	9717'	20'	5/23/2011
Tyonek	10008'	10049'	10000'	10040'	41'	5/23/2011

Last Rev: 10/14/2025
By: Jake Flora

Attachment 26 KL 1-2 – Well Schematic

PTD: 211-097
API: 50-133-20597-00-00
Wellhead: FMC 10-3/4 x 7-5/8 x 2-7/8 5k Multibowl 235
Tree: dryhole tree & gauge
GL: 113'
KB: 92.5' (21' AGL)



PBTD = 6475' MD / 6205' TVD
TD = 11368' MD / 11000' TVD

Kenai Loop 1-2

Current Schematic

Spud: 9/1/2011
Last Completion: 10/23/2011
Status: Suspended

Casing / Tubing Detail

Size	Type	Wt	Grade, XN	ID	Top MD	Btm MD / TVD
16"	Conductor		N-80		0'	120' / 120'
10-3/4"	Surface	45.5#	L-80, BTC	9.950"	0'	3027' / 3026'
7-5/8"	Intermediate	29.7#	L-80, VAM	6.875"	0'	8330' / 7969'
4-1/2"	Liner	12.6#	L-80, TCII	6.276"	8099'	11368' / 11000'

Cement Detail

10-3/4"	Cemented with 449 bbls cement, 80 bbls cmt to surface, 9/2/11 CBL
7-5/8"	Cemented with 101 bbls 13.5# lead, 49 bbls 15.8# tail, full returns, 9/16/11 CBL, TOC @ 4850'
4-1/2"	Cemented with 102 bbls 15.8 ppg, 10 bbls circulated cement off TOL, 10/6/11 CBL

Jewelry Detail

Item	Description	ID	Depth, Top
A	7-5/8" CIBP w 25' cmt cap (TOC ~6375') (10/20/11)		6400'
B	5-1/2" x 7-5/8" Baker ZXP Packer, FlexLok LH		8100' MD
C	4-1/2" CIBP w 25' cmt cap (TOC ~9725') (10/25/11)		9750'
D	WL set packer w sealbore, x nipple, plug w sand		10045'
E	WL set packer w sealbore, x nipple, plug w sand		10300'
F	WL set packer w sealbore, x nipple, plug		10700'

Fish Detail

Item	Description	Date	est TOF
a	2-7/8" tubing tail, x nipple, 10' pup cut and dropped	10/12/11	11250'

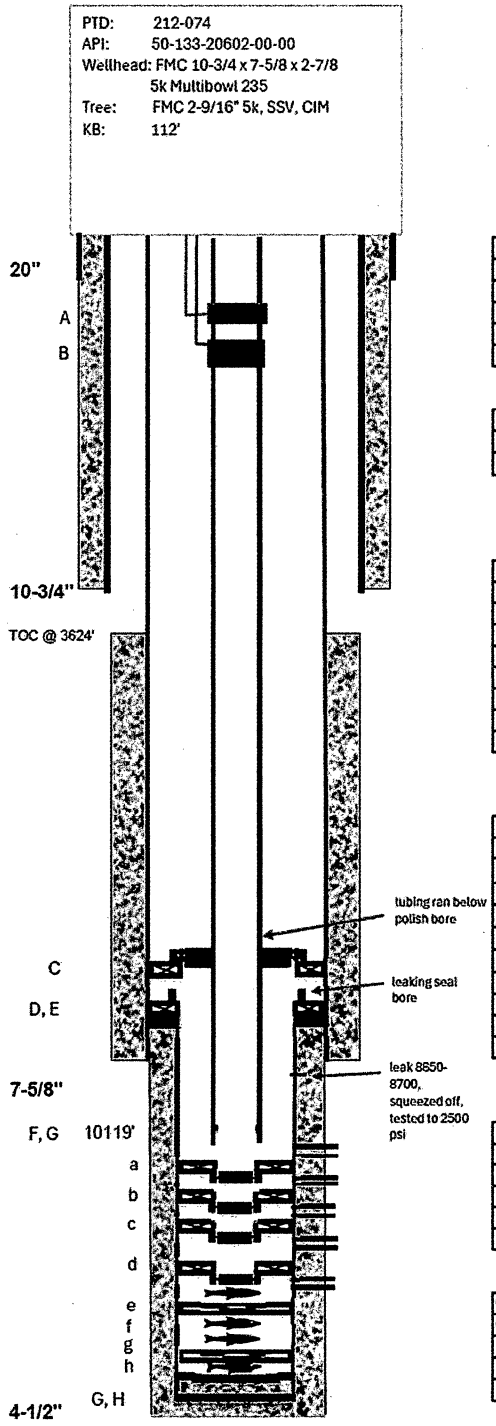
Perforation Detail

Sand	Top (MD)	Btm (MD)	Top (TVD)	Btm (TVD)	FT	Date
Beluga	6435	6450	6170	6183	15	10/23/11
Beluga	6950	6960	6634	6643	10	10/22/11
Tyonek	9790	9815	9428	9453	25	10/18/11
Tyonek	10223	10248	9861	9886	25	10/16/11
Tyonek	10520	10540	10158	10178	20	10/09/11
Tyonek	10920	10945	10558	10583	25	10/13/11

Aquifer Exemption 15: Approved in 2012, exempts aquifers in Sterling & Beluga Formations within 1/2 mile radius of KL 1-2 wellbore, within the interval of 3980' to 7539' MD for Class II disposal.

Last Rev: 10/14/2025
By: Jake Flora

Attachment 27 KL 1-3 – Well Schematic



PBTD = 12944' MD / 12627' TVD
TD = 13,083' MD / 12,765' TVD

Kenai Loop 1-3

Current Schematic

Spud: 9/11/12
Last Completion: 1/20/13
Status: Shut In

Casing / Tubing Detail

Size	Type	Wt	Grade, XN	ID	Top MD	Btm MD	TVD
16"	Conductor		N-80		0'	137'	137'
10-3/4"	Surface	45.5#	L-80, BTC	9.950"	0'	3024'	3024'
7-5/8"	Intermediate	29.7#	L-80, VAM	6.875"	0'	8609'	8305'
4-1/2"	Liner	12.6#	L-80, HYD 563	6.276"	8339'	13035'	12717'
2-7/8"	Tubing	6.5#	L-80, EUE Mod	2.347"	0'	10119'	tbd

Cement Detail

10-3/4"	300 bbls cement to surface. 10-1-12 CBL
7-5/8"	252 bbls 15.8ppg Class G, full returns. 10-14-12 CBL. (TOC 3624')
4-1/2"	408 bbls 15.8 ppg Class G, circulated out 89 bbls off TOL. (11-20-12 CBL)

Jewelry Detail

Item	Description	ID	Top MD
A	2-7/8" TR-SSSV, Baker TE-5, 0.25" CL		589'
B	2-7/8" Chemical Injection Mandrel, 0.25" CL		4499'
C	5-1/2" x 7-5/8" Baker ZXP Packer, FL 3 LH, 10' PBR	5.750" ID	8323'
D, E	PBR, Baker ZXP Packer, FlexLock III LH *LEAKED*		8399'
F	X nipple		10119'
G	Tubing tail		10195'
H	Landing Collar	NA	12944'
I	Float Shoe	NA	13034'

Plug - Fish Detail

Item	Description	Date	Top MD	
a	4-1/2" WFD UltrPak, x nipple, plug set 1/11/13	10/10/13	10500'	
b	4-1/2" WFD UltrPak, x nipple, plug set 1/9/13	1/8/13	10850'	
c	4-1/2" WFD UltrPak, x nipple, plug set 1/6/13	1/5/13	11698'	
d	4-1/2" WFD UltrPak, x nipple, plug set 12/31/12	12/26/13	12589'	
e	FISH: 30' TCP gun assembly (dropped)	12/28/12		
f	4-1/2" HES EZ Drill, eline tagged	12/23/12	12830'	
g	FISH: 4-1/2" HES EZ Drill pushed to btm	12/20/12	12830'	
h	FISH: HES plug pushed to btm, tagged	12/16/12	12834'	
i	4-1/2" Owens CIBP	11/25/12	12912'	
j	FISH: 4-1/2" Owens CIBP pushed to btm	11/22/12	12940'	

Perforation Detail

Sand	Top (MD)	Btm (MD)	Top (TVD)	Btm (TVD)	FT	Date	Status
Tyonek	10295'	10305'	9979'	9989'	10'	1/12/13	open
Tyonek	10630'	10657'	10314'	10341'	41'	1/9/13	plugged
Tyonek	10962'	10978'	10646'	10662'	16'	1/7/13	plugged
Tyonek	11920'	11940'	11604'	11624'	20'	1/1/13	plugged
Tyonek	12660'	12690'	12344'	12374'	30'	12/28/12	plugged

Recent History

6/25/2015	1.75" GR to 10479' MD. Set gages for field wide static pressure survey.
6/13/2023	Sundry to perform coil cleanout and N2. No 10-404.
10/24/2023	Sundry to perforate 10366-10376. No 10-404.

Last Rev: 11/6/25
By: Jake Flora

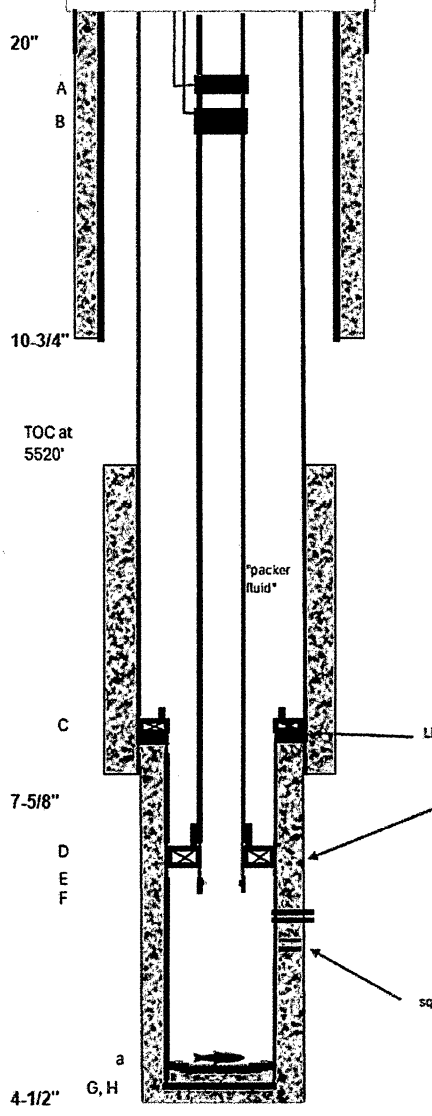
Attachment 28 KL 1-4 – Well Schematic

PTD: 213-091
API: 50-133-20168-00-00
Wellhead: FMC 10-3/4 x 7-5/8 x 2-7/8 5k Multibowl 235
Tree: FMC 2-9/16" 5k, SSV, CIM
KB: 112'

Kenai Loop 1-4

Current Schematic

Spud: 8/5/13
Last Completion: 10/5/13
Status: Shut In



Liner tap squeezed down to perfs at 9870-72'. Tested to 4000 psi after squeeze.

Wireline Set Packer (Millable)

squeeze perfs 9870-72'

Casing / Tubing Detail

Size	Type	Wt	Grade, XN	ID	Top MD	Btm MD	TVD
16"	Conductor		N-80		0'	138'	138'
10-3/4"	Surface	45.5#	L-80, BTC	9.950"	0'	3057'	3051'
7-5/8"	Intermediate	29.7#	L-80, VAM	6.875"	0'	9474'	9277'
4-1/2"	Liner	12.6#	L-80, HYD 563	6.276"	9273'	11396'	11198'
2-7/8"	Tubing	6.5#	L-80, EUE Mod	2.347"	0'	9714'	9514'

Cement Detail

10-3/4"	304 bbls 13.5 ppg, cement to surface. 8-15-13 CBL *IN FILE*
7-5/8"	249 bbls 15.8ppg Class G, full returns. 9-6-13 CBL, TOC at 5520'. *IN FILE*
4-1/2"	82 bbls 15.8 ppg Class G, plug did not bump. Cement squeezed liner lap. Post squeeze CLB (9-29-13), TOC at 9250' (TOL). *IN FILE*

Jewelry Detail

Item	Description	ID	Top MD / TVD
A	2-7/8" TR-SSSV, Baker TE-5, 0.25" CL		622'
B	2-7/8" Chemical Injection Mandrel, 0.25" CL		1806'
C	PBR, Baker ZXP Packer, FlexLock LH		9273' / 9076'
D	WFD Ultra Pak packer w SBE		9715' / 9514'
E	X nipple		9727'
F	Tubing tail, cut off and dropped TCP guns on 8-11-15		9752'
G	Landing Collar	NA	10998'
H	Float Shoe	NA	11396'

Plug - Fish Detail

Item	Description	Date	Top MD
a	2-3/8 x 2-7/8 XO + 3-1/8" TCP gun, 68' OAL. Ran cutter to 10,300 MD after cutting tubing tail.	8/11/15	10300'

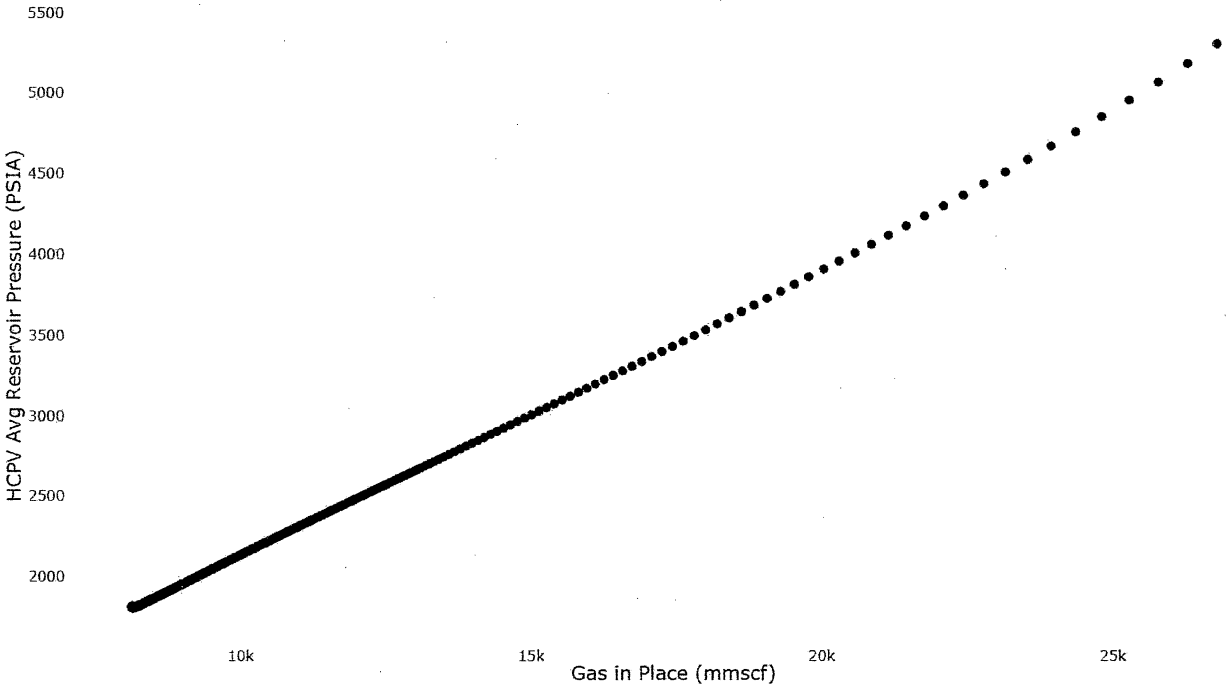
Perforation Detail

Sand	Top (MD)	Btm (MD)	Top (TVD)	Btm (TVD)	FT	Date	Status
Tyonek	9792'	9816'	9595	9619	24'	10/5/13	open

PBTD = 10,998' MD / 10,771' TVD
TD = 11,396' MD / 11,198' TVD

Last Rev: 10/14/25
By: Jake Flora

Attachment 29 Reservoir Pressure Drawdown During Withdrawal Season



Attachment 30 ENSTAR Typical "SSSV Assembly" Schematic

SAFETY SYSTEMS

Onyx Series Subsurface Safety Valves

Product Family Nos. H82624, H82625, H82626, H82627, H82630 and H82631

Application

Baker Hughes continues to lead the industry in innovative valve design. Introducing the **Onyx™ series**, the industry's first 7-in. (178-mm) tubing retrievable safety valve (TRSV) that can fit inside a 9⅝-in. (244-mm) casing with cable bypass capabilities. In addition, Baker Hughes has designed the industry's first 4½-in. (114-mm) TRSV to fit inside a 7-in. (178-mm) casing.

The Onyx series of tubing retrievable surface controlled subsurface safety valves are specifically designed for big bore applications. Onyx series safety valves are based on the successful **T-Series™**. The Onyx series combines a patented, state-of-the-art closure mechanism and premium housing threads to produce the industry's first tubing retrievable safety valves that offer full-opening production in smaller casing sizes. As a result, operators get multiple benefits: the lower cost of smaller-OD casing, flexibility in designing their completions, and higher production rates typical of larger tubing sizes.

Available Sizes

4.500 in., 7.000 in. and 9.625 in.

Advantages

- **Slimline OD** – enables larger tubing to be installed without sacrificing the full opening for maximized production
- **Reduces completion cost (CAPEX)** – the valve permits operators to use smaller casing programs
- **Broader application coverage** – ability to run capillary lines for downhole instrumentation or chemical injection and/or cables for electric submersible pump operation as well as dual completion installations
- **RBT Housing Seals** – two step metal-to-metal sealing system provides strength and sealing under the harshest conditions
- **Nonelastomeric dynamic seal assembly** – withstands extreme pressures and temperatures exceeding 28,000 psi (1,931 bar) and 450°F (232°C)
- **Metal-to-metal seal technology** – 100% metal-to-metal sealing and containment of well bore fluids when the valve is in the closed position
- **Patented thru-the flapper equalizing system** – most successful and widely used system available to the market
- **Ultra strong curved flapper design** – resistant to high impact loads in high flow rate applications

Specification Guide

Size		Max OD		Max Seal Bore		Working Pressure		Max Setting Depth		Max Temperature	
in.	mm	in.	mm	in.	mm	psi	bar	ft	m	°F	°C
4.500	114.3	5.970	151.6	3.812	96.8	5,000	345	6,000	1,829	300	149
		5.970	151.6			8,500	586				
		6.860	174.2			10,000	689			350	177
7.000	177.8	8.125	206.4	5.812	147.6	5,000	345	6,000	1,829	300	149
		8.375	212.7	5.875	149.2						
		8.900	226.1			7,500	517			350	177
		9.200	233.7	5.812	147.6	10,000	689				
9.625	244.5	11.770	299	8.405	213.5	5,000	345	2,000	610	300	149
		12.220	309.9	8.375	212.7	10,000	689			350	177

Onyx-5(E) Subsurface Safety Valves
Product Family No. H82627

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ENSTAR GAS STORAGE LEASE APPLICATION

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