

12241

HOUSE

RES

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**From:** Joynor, Michael [mailto:JoynorM@alyeska-pipeline.com]  
**Sent:** Monday, March 27, 2006 4:09 PM  
**To:** Fontaine, Katharine  
**Subject:** RE: GBP Oil Transit Line Pigging

I have asked the group to give me a couple of names so that we don't miss any communications with you. Should be able to tell you by Wednesday.

MWJ

---

**From:** Fontaine, Katharine [mailto:Katharine.Fontaine@bp.com]  
**Sent:** Monday, March 27, 2006 2:05 PM  
**To:** Joynor, Michael  
**Subject:** FW: GBP Oil Transit Line Pigging

Mike,

Whom within your organization should I contact regarding the pigging operation mentioned below?

-Kathy

---

**From:** Rocereta, Michael D  
**Sent:** Monday, March 27, 2006 10:21 AM  
**To:** Williams, Bruce J; Zinn, Kathleen; Copeland, Kemp; Mike Joynor (joynorm@alyeska-pipeline.com); Johnson, James F (APS)

**Cc:** Swank, Gregory R; Fontaine, Katharine; Pomeroy, Glen  
**Subject:** GBP Oil Transit Line Pigging

Kathy,

Please advise Alyeska Pipeline operations and OCC that in as early as 2 weeks from today GPB might start a regular program of maintenance pigging for the 3 GPB oil Transit lines:

Lisburne Oil Transit Line (From the Lisburne Production facility to Pump Station 1)  
Western Operating Area Oil Transit Line (from GC-2 to GC-1 to Skid 50)  
Eastern Operating Oil Transit Line (From FS-2 to FS-1 to FS-3-Skid 50)

We expect this program to continue indefinitely.

We will advise Mike Joyner 3-4 days before each pigging runs begin and we will advise Mike when each pig enters each line and when it is retrieved. Glen Pomeroy or Kathy Fontaine will coordinate communication between BP GPB Operations and Alyeska OCC.

*Michael Rocereta*  
**TAPS Delivery Manager**  
**Office: 907-564-5257**  
**Cell: 907-440-7922**  
**Home: 907-696-4574**

2

From: GPB, Prod Opt TL  
Sent: Saturday, April 15, 2006 7:29 PM  
To: 'KlingJD@alyeska-pipeline.com'  
C.: Wangstrom, Per E; Fontaine, Katharine; Tucker, Hal E  
Subject: FW: Emailing: Pig file comments OT21.doc

Doesn't look like the strainers were pulled at PS01 meter during the WOA oil transmission line pigging in 1998.

Mike

-----Original Message-----

From: NSU, CIC TL  
Sent: Saturday, April 15, 2006 5:21 PM  
To: GPB, Prod Opt TL  
Subject: FW: Emailing: Pig file comments OT21.doc

No mention of removing strainers in what history Mark could locate...

-----Original Message-----

From: Petersen, Mark A  
Sent: Saturday, April 15, 2006 5:16 PM  
To: NSU, CIC TL  
Subject: Emailing: Pig file comments OT21.doc

John,

Here are the "Pigging Database" comments of all the 98 pigging campaign on the OT21 line. There are a few references to the screens, however nothing mentions removing them. If you think this is pertinent information we can forward it on.

Mark Petersen  
Pigging Operator  
659-4682  
Beeper x4236.....568

3

bp

Steve Marshall

President, Alaska

April 25, 2006



BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
(907) 564-5477

Kevin Hostler  
Alyeska Pipeline Service Company  
900 E. Benson Blvd.  
Anchorage, AK 99508

Dear Kevin,

As you may be aware, on March 15, 2006, the Department of Transportation issued a Corrective Action Order to BPXA as Operator of the Prudhoe Bay Unit directing maintenance pigging of the three Prudhoe Bay Unit oil transit pipelines (Prudhoe Bay Western Operating Area, Prudhoe Bay Eastern Operating Area and Lisburne). Via this letter, BPXA requests Alyeska's assistance in carrying out this order and in managing any solids or other returns that are liberated via this maintenance pigging activity.

Maintenance pigging oil transit pipelines has been done in the past on each of these pipelines and is conducted from time to time on other North Slope oil pipelines. In every case, this involves sending a pipeline pig or a series of pigs that are increasingly aggressive in their cleaning capabilities through the pipeline. The pigs themselves are "caught" in receivers prior Pump Station One, but currently, there are no tanks or other facilities designed to contain solids or other "pigging returns" within the Prudhoe Bay Unit. Since these pipelines were last pigged eight or more years ago, we do expect elevated solids levels during these maintenance pigging runs. We do not have conclusive estimates of the volume from each line, but will be conducting gamma ray surveys beginning later this week to position ourselves to provide greater insight to Alyeska on this matter. Our Maintenance and Reliability Manager, Bruce Williams, has already been assigned to provide technical information to support any risk assessment Alyeska may wish to conduct in assessing solids management issues.

We have also briefly evaluated the potential of constructing tanks within the Prudhoe Bay Unit to collect solids or other pigging returns. A very high level review concluded that such construction would require a minimum of eighteen months to complete. As a result, we request Alyeska's support so that we may comply with the DOT order and accomplish smart pigging of all three lines during the summer of 2006.

Thank you for your assistance. Please contact me with any questions.

Sincerely,

  
Steve Marshall



BPXA-LEGIS000003

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P.O. Box 196660

ANCHORAGE, ALASKA 99519-6660

TELEPHONE (907) 787-8700

Kevin M. Hostler  
President & Chief Executive Officer

May 12, 2006

Steve Marshall, President  
BP Exploration (Alaska) Inc.  
900 East Benson Blvd.  
Anchorage, Alaska 99508

Subject: Receipt of Material from Non-routine Pigging of Producer Lines

Dear Steve:

A team of Alyeska engineers, oil movement specialists, and others have completed an initial assessment in response to your April 25<sup>th</sup>, 2006 request to help manage the pigging materials that result from BPXA's proposed pigging activities in the EOA, WOA and Lisburne POTLs. This letter summarizes results of that assessment and describes the basis under which Alyeska would continue working on this request.

Alyeska's evaluation of the potential impacts to TAPS facilities if this material is to be received, is to ensure the activities and resultant impacts of receiving pigging material from the connecting pipelines meet the following standards:

- Any pigging activities will not adversely impact safety, environment or TAPS integrity.
- Any pigging materials from these activities will not adversely impact the safe and efficient transportation of crude oil in TAPS, nor adversely impact TAPS crude oil quality.
- Anything TAPS does relating to this type of pigging activity must be done for any connector in the future, should the situation arise again, or a similar situation on a different connection.
- TAPS must be reimbursed for its costs, paid fair market value for the use of its facilities, and be provided assurances that the risks of taking the materials are borne by BPXA.

As such, Alyeska initiated an assessment on TAPS equipment, systems, and operations from a safety, environmental, integrity, compliance and legal perspective. The assessment teams were directed to evaluate the apparent potential impacts and/or hazards to TAPS if the proposed BPXA maintenance cleaning pig material from these POTLs is routed into TAPS.

Because of the potential impacts to TAPS from these pigging materials, the first conclusion of the assessment is that if possible BPXA should handle these materials without utilizing TAPS. As a result, we request BPXA undertake a thorough engineering and cost analysis of its best options to remove the solids into a BPXA facility before they enter PS 1. As explained below, with agreement from BPXA to reimburse our costs, Alyeska will initiate a similar analysis of the best options involving TAPS, for eventual comparison with the BPXA option.

Based upon our present assessment, Alyeska can not at this point approve receipt of the pigging materials into TAPS, either to the mainline or to a tank at Pump Station 1. With regard to the first option, our assessment evaluated transporting the pigging materials through the TAPS mainline and into the Valdez Marine Terminal. The introduction into TAPS of these pigging materials is expected to pose significant adverse risks, particularly to safety, systems integrity and the environment. These risks can not be mitigated to an acceptable level, and Alyeska does not intend to consider this option further.

Based on Alyeska's assessment of the second option, to route pigging materials to a breakout tank at Pump Station 1, Alyeska is not prepared at this time to approve this option. Alyeska is willing to continue to explore and develop this option. There are several sub-options within this general concept that could be further developed. Fully developed options will be compared internally, and with the BPXA options on the basis of effectiveness in protecting the safe and efficient transportation of oil, worker and public

BPXA-LEGIS000004

safety, integrity, environmental protection and regulatory compliance to determine whether a TAPS option is acceptable to Alyeska, the TAPS Owners, BPXA, and government agencies.

Alyeska's assessment of a PS 1 storage tank option indicates that it is possible, but not certain, that impacts could be mitigated to an acceptable level of risk. While not attractive to Alyeska or the TAPS system, with additional analysis and consideration provided by BPXA, this option could potentially be viable, if TAPS elects to accept the operational and associated legal risks. A thorough evaluation of all the various issues, risks and mitigation measures of this option would need to be completed to allow Alyeska to make a final decision and recommendation to the TAPS Owners. Important issues that need to be resolved are whether this option could be accomplished without negatively impacting the maintenance shutdown of TAPS in July, and the strategic reconfiguration project. Also, this option has the potential to impact TAPS oil shippers. Accordingly our plan is to further evaluate this option in close coordination with BPXA, the TAPS regulators, and TAPS Owners.

While further analysis could change it, the concept currently envisioned is as follows: TAPS would temporarily lease the use of a crude oil breakout tank at PS 1 and the upstream piping to BPXA. Under this approach, Alyeska would retain a necessary amount of operational control of these assets. All pigging materials would be routed from the BPXA operated POTLs pig runs directly into the leased tank and removed as cleaning pig runs are completed. BPXA would retain custody of the pigging solids and accompanying crude oil until the solids had been removed. Ultimately, only normal quality crude oil would be delivered to the TAPS mainline. Alyeska would reserve the right to use the leased facilities for unplanned conditions as well as certain defined (e.g., TAPS shutdown) conditions and BPXA would agree to manage the contents of the tank in a manner that ensures that TAPS potential needs could be met. When BPXA has completed its use of the piping and tank for receipt and removal of pigging solids, the facilities would be returned to Alyeska in a condition equal to, or better than, when transferred to BPXA through the lease.

The findings of Alyeska's TAPS Impact Assessment and our legal analysis support this recommendation.

If BPXA would like to pursue this further Alyeska proposes that we proceed as follows:

- A. Develop a funding agreement between BPXA and Alyeska to cover Alyeska assessment costs to date and costs in developing a detailed plan for the PS 1 storage tank option. This work will include, but not be limited to, preliminary design of facilities, assessment of issues, risks and potential variations on the option and preliminary review with the TAPS Owners, the JPO and regulators.
- B. Work together as follows:
  1. As a prerequisite for Alyeska moving forward with its analysis, we request BPXA to evaluate and document its best alternatives available for managing the pigging materials upstream of PS1. We need this information so that we can have an informed discussion with the TAPS Owners and our regulators about the best options to handle the pigging materials. We wish to be clear on an important point: even if, after analysis, use of a PS 1 tank appears to be the best option from a cost and timing perspective, it may not be acceptable from an operational, compliance and legal perspective.
  2. If this analysis produces a plan that meets all our criteria for acceptance, Alyeska will only proceed with the plan after we have a contract whereby BPXA agrees to bear the costs incurred by Alyeska and TAPS to accommodate BPXA's request and to put TAPS in a position to accept the pigging materials, including the costs of risk mitigation, and the fair market rental value of the facilities.
  3. Our agreement with BPXA must address all elements of this arrangement, including but not limited to an indemnity agreement whereby BPXA will provide full indemnification of Alyeska and the TAPS Owners for any liabilities that may arise from the decision to accept the pigging materials (including claims based on negligence, gross negligence, willful misconduct, or

May 12, 2006

Page 3

criminal acts). A demonstration of financial responsibility similar to other TAPS connectors would be required, along with other terms and conditions appropriate to this new agreement.

4. Commit to establish connection permits and agreements for the PBU and Lisburne connections. Although we will not require completion of the connection agreements before the pigging operations commence, Alyeska will require a written statement of intent to complete them by the end of 2006, recognizing that RCA approval may take longer.
- C. Alyeska will provide a full briefing to its regulators, in advance, on Alyeska's proposed action and all relevant circumstances and considerations affecting it.
- D. Alyeska will require a formal pigging plan from BPXA prior to receipt of GPB pigging materials into TAPS facilities.
- E. Alyeska will obtain any necessary approvals of the TAPS Owners after the above action items have been completed and before any pigging materials are allowed into TAPS.
- F. Alyeska will simultaneously adopt the foregoing points as a formal and non-discriminatory policy for dealing with similar requests (by BPXA and others) in the future.

If BPXA agrees to proceed on this basis, the following members of the Alyeska senior management team are designated for interaction with BPXA representatives:

Mike Joynor, Oil Movements Manager – technical and operational issues  
Jordan Jacobson, VP and General Counsel – legal and contractual issues  
Rob Shoaf, Compliance Officer – regulatory issues

Alyeska is prepared to proceed with this approach upon acceptance from BPXA. Please contact me if you wish to discuss this further.

Sincerely,



cc: TAPS Owners Committee

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P O Box 196660

ANCHORAGE, ALASKA 99519-6660

TELEPHONE (907) 787-8700

Kevin M. Hostler  
President & Chief Executive Officer

May 12, 2006

A. N. Bolea  
D. C. Jones  
M. P. Tudor  
P. D. Allison  
M. Purkey

BP Pipelines (Alaska) Inc.  
ConocoPhillips Transportation Alaska, Inc.  
ExxonMobil Pipeline Company  
Unocal Pipeline Company  
Koch Alaska Pipeline Company, L.L.C.

Subject: Receipt of Material from Non-routine Pigging of Producer Lines

This confirms our conversation last Monday concerning progress to date and a plan going forward regarding the receipt of pigging materials from the pigging of certain North Slope producer lines.

Background: In an April 25<sup>th</sup>, 2006 letter to Alyeska Pipeline Service Company, BP Exploration Alaska (BPXA) requested Alyeska's assistance in carrying out the DOT compliance order to accomplish In-line Inspection (ILI) of all three Produced Oil Transit Lines (POTLs) to include Lisburne (LPC), Eastern Operating Area (EOA), and Western Operating Area (WOA). Specifically, BPXA asked Alyeska's help by managing any solids or other returns that are liberated via the pigging activities. BPXA's letter notes that elevated solids levels are expected to result during these pigging runs. Based on historical records provided by BPXA, we understand that these POTLs have not been pigged since anywhere from 1993 for the WOA line to 1991 for the EOA line. There is no accurate means of determining the volume or quality of the pigging materials from each line. Due to the amount of time that has passed since the POTLs were last pigged, the estimated volume of accumulated solids within the POTLs is expected to be significantly greater than normally received during routine pigging operations. This may have a large impact to the overall TAPS crude quality.

Alyeska has conducted an evaluation of the potential impacts to TAPS facilities if this material were to be received. To accomplish this, Alyeska's guiding principles are to ensure that the activities and resultant impacts of receiving pigging material from the connecting pipelines meet the following standards:

- Any pigging activities will not adversely impact safety, environment or TAPS integrity.
- Any pigging materials from these activities will not adversely impact the safe and efficient transportation of crude oil in TAPS, nor adversely impact TAPS crude oil quality.
- Anything TAPS does relating to this type of pigging activity must be done for any connector in the future, should a similar situation arise again.
- TAPS must be reimbursed for its costs, paid fair market value for the use of its facilities, and be provided assurances that the risks of taking the materials are borne by BPXA.

As such, Alyeska initiated an assessment on TAPS equipment, systems, and operations from a safety, environmental, integrity, compliance and legal perspective. The assessment teams were directed to evaluate the apparent potential impacts and/or hazards to TAPS if the proposed BPXA maintenance cleaning pig material from these POTLs is routed into TAPS.

Based upon its assessment, Alyeska can not at this point approve receipt of the pigging materials into TAPS. Alyeska plans to ask that BPXA more fully develop its options to manage the pigging materials without using TAPS facilities. This is to protect TAPS from setting a precedent for shippers and connectors that would not be advisable. (BP's April 25<sup>th</sup> letter indicates that as of that date only a "high level review" of upstream options had been done.) While BPXA is doing that, if BPXA agrees to fund the effort, Alyeska will continue to develop an option of allowing BPXA to capture the solids in and remove them from either breakout Tank 110 or 111 at PS 1. Fully developed options will be compared internally and with the BPXA options, on the basis of their effectiveness in protecting the safe and efficient transportation of oil, worker and public safety, integrity, environmental protection and regulatory

BPXA-LEGIS000007

compliance to determine whether a TAPS option is acceptable to Alyeska, the TAPS Owners, BPXA, and government agencies.

Alyeska's assessment also evaluated the option to transport the pigging materials through the TAPS mainline and into the Valdez Marine Terminal. The introduction into TAPS of these pigging materials is expected to pose significant adverse risks, particularly to safety, systems integrity and the environment. These risks cannot be mitigated to an acceptable level. This option was not recommended by the assessment team.

In the PS 1 storage tank option, it is possible, but not certain, that impacts could be mitigated to an acceptable level of risk. While not attractive to Alyeska or the TAPS system, with additional analysis and consideration provided by BPXA, this option could potentially be viable if TAPS elects to accept the operational and legal risks associated with it. Alyeska's assessment identified several risks and potential mitigation measures in this option. A thorough evaluation of all the various issues, risks and mitigation measures of this option would need to be completed to allow Alyeska to make a final decision and recommendation to you. Important issues that need to be resolved are whether this option could be accomplished without negatively impacting the maintenance shutdown of TAPS in July, and the strategic reconfiguration project. Also, this option has the potential to impact TAPS oil shippers. Accordingly our plan is to further evaluate this option in close coordination with BPXA, TAPS regulators, and TAPS Owners.

While further analysis could change it, the concept currently envisioned is as follows: TAPS would temporarily lease the use of a crude oil breakout tank at PS 1 and the upstream piping to BPXA. Under this approach, Alyeska would retain a necessary amount of operational control of these assets. All pigging materials would be routed from the BPXA operated POTLs pig runs directly into the leased tank and be removed as cleaning pig runs are completed. BPXA would retain custody of the pigging solids and accompanying crude oil until the solids had been removed. Ultimately, only normal quality crude oil would be delivered to the TAPS mainline. Alyeska would reserve the right to use the leased facilities for unplanned conditions as well as certain defined (e.g., TAPS shutdown) conditions and BPXA would manage the contents of the tank in a manner that ensures that TAPS potential needs could be met. When BPXA has completed its use of the piping and tank for receipt and removal of pigging solids, the facilities would be returned to Alyeska in a condition equal to, or better than, when transferred to BPXA through the lease.

The findings of Alyeska's TAPS Impact Assessment and our legal analysis support this recommendation

Unless directed otherwise, Alyeska will proceed as follows:

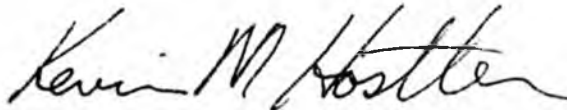
- A. Develop a funding agreement with BPXA to cover Alyeska assessment costs to date and costs of developing a detailed plan for the PS 1 storage tank option. This work will include, but not be limited to, preliminary design of facilities, assessment of issues, risks and potential variations on the option and preliminary review with the TAPS Owners, the JPO, and regulators.
- B. Work with BPXA as follows:
  1. Require BPXA to demonstrate that there is no reasonable alternative available for managing the pigging materials upstream of PS1.
  2. Require BPXA to bear the costs incurred by Alyeska and TAPS to accommodate BP's request and to put TAPS in a position to accept the pigging materials, including the costs of risk mitigation, and the fair market rental value of the facilities.
  3. Require BPXA to provide full indemnification of Alyeska and the TAPS Owners for any liabilities that may arise from the decision to accept the pigging materials (including claims based on negligence, gross negligence, willful misconduct, or criminal acts). A demonstration of financial responsibility similar to other TAPS connectors should be required, along with other terms and conditions appropriate to this new agreement.
  4. Work with BPXA to commit to establish connection permits and agreements for the PBU and Lisburne connections. It is not contemplated that this activity can be completed before the pigging operations commence.

Letter to Owners: Receipt of Material from Non-routine Pigging of Producer Lines  
May 12, 2006  
Page 3

- C. Alyeska will provide a full briefing to its regulators, in advance, on Alyeska's proposed action and all relevant circumstances and considerations affecting it.
- D. Alyeska will require a formal pigging plan from BPXA prior to receipt of pigging materials into TAPS facilities
- E. Alyeska will bring this matter back to the TAPS Owners after the above action items have been completed and before any pigging materials are allowed into TAPS.
- F. Alyeska will simultaneously adopt the foregoing points as a formal and non-discriminatory policy for dealing with similar requests (by BPXA and others) in the future.

Please let me know if you have any questions or concerns at this time.

Sincerely,

A handwritten signature in cursive script, reading "Kevin M. Hostler". The signature is written in black ink on a white background.

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**From:** Williams, Bruce J  
**Sent:** Friday, May 19, 2006 3:02 PM  
**To:** 'Joynor, Michael'  
**Cc:** Buckendorf, Randal  
**Subject:** GR scan data for OT lines

Mike, per our discussion this morning here is the GR scan data for the OT lines.. Let me emphasis a couple of important points.

- This data is preliminary. We will be conducting additional analysis and processing to improve the accuracy and will forward that to you in about a week. Based on a field calibration test we believe the data is representative of sediment in the lines.
- Per Wangstrom is currently developing solids estimates for the lines based on these readings, their location and pipeline elevations. We should have these estimates later today or tomorrow.
- Additionally Per will summarize all the information that we've accumulated regarding evidence of line solids including thermal imaging and fluid velocity tests. For example, for the Lisburne line we have GR scan data, Thermal imaging, and fluid velocity tests that all present a consistent picture that indicates no to very low solids in the line. Taken as a whole, these data sets provide some confidence of our assessment of solids in the lines.

The attached spreadsheet includes the GR scan readings. I will send the athe areal photos with the locations and readings in a separate note due to the size of the files.



Gamma Scan  
Tracker.xls (37 KB)..

Also, we are investigating your request on the skid 50 to PS1 line regarding inspection points between the battery limit valve and the insulation valve and should have an answer later today or tomorrow..

Pls call if you would like to discuss. Thanks.

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**From:** Wangstrom, Per E  
**Sent:** Friday, May 19, 2006 3:18 PM  
**To:** Williams, Bruce J; Kurz, John; Rood, Robert C; NSU, CIC TL; JoynorM@alaska-pipeline.com  
**Cc:** Swank, Gregory R; NSU, CIC Acuren Project Manager; NSU, CIC Mech Integrity Insp; NSU, CIC Fid Integ Ops; GPB SSEP Mech Piping Engr; GPB, FS3/GC3 Proc Engr; Susich, Mark L; Shaw, Susan M; Dengler, John M; Fode, Ethan A; GPB, Prod Opt TL; Foust, Nancy C; Hawley, Robert S; Hedges, Bill; Herod, Corey; Lammers, Joe J; Leach, Brett W; Blake, Jennifer J; Bruchie, James (Dave) D  
**Subject:** Latest GPB Oil Transit Line Solids Loading Estimate

Folks,

Here are the latest GPB Oil Transit Line solids loading estimate. The estimate is based on the preliminary field data from the Acuren gamma-ray testing. Acuren still need to analyze the data in the office for about 40 hours to confirm the results. The analysis will be done next week.

Acuren will let us know if the final gamma-ray results will indicate if the top of the solids level on the bottom of the pipe is flat (horizontal) or has a contour along the pipe wall.

The preliminary gamma-ray data are consistent with the data from the Total Vapor Pressure (TVP) spike travel time, thermal imaging and transducer installation experience data point we have collected. The one exception is the temperature spike travel time test we conducted from FS1 to Pump Station 1, which indicated a relatively clean line, while the gamma-ray scans in all 8 locations indicate a very solids laden line. The travel time test is probably not very accurate, but it should be able to detect a line that is over a quarter full of solids. We will run another temperature spike travel time test from FS1 to Pump Station 1 to see if the data will be duplicated.

The gamma-ray data for the LPC line shows it to be pretty clean, which is consistent with the thermal images we have and the TVP spike travel time data. The line was also very clean when it was pigged in 1994. The line should have less than 15 cubic yards of solids.

The gamma-ray data for the 30" line from FS2 to FS1 shows an average of 4" of solids in the line. This is consistent with the thermal image we took of the line. It is also consistent with the experience we had when we installed the transducers for the leak detection system. We could not get a signal below 6" over the bottom of the pipe (which is consistent with gamma-ray reading by FS1).

<<GPB Oil Transit Lines Solids Loading - 5-19-06.ZIP>>

**Per Wangstrom, PE**  
*BRT Project Team Leader*  
BOC-113  
(907) 659-4180 (office)  
(907) 529-2944 (cell)

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P.O. Box 199000

ANCHORAGE, ALASKA 99519-0000

TELEPHONE (907) 787-8700

May 22, 2006

Stevn Marshall  
BP Exploration (Alaska) Inc  
900 East Benson Blvd.  
Anchorage, Alaska 99508

Subject: TAPS Impact Assessment of BPXA Pigging – Interim Report

Dear Mr. Marshall:

In an April 25, 2006 letter to Alyeska Pipeline Service Company (APSC), BP Exploration Alaska (BPXA) requested APSC's assistance in carrying out the DOT compliance order to accomplish In-line Inspection (ILI) of three Produced Oil Transit Lines (POTL) to include Lisburne(LPC), Eastern Operating Area (EOA), and Western Operating Area (WOA). Based on this request, APSC formed a TAPS Assessment Team comprised of subject matter experts to evaluate the potential impacts of receiving pigging solids from the proposed cleaning and inspection activities.

The Assessment Team conducted an evaluation of the potential impacts to TAPS facilities and operations if this material was to be received. Please find attached Alyeska Pipeline Service Company's (APSC) interim report that reflects the findings and recommendation of the team regarding the impacts of receiving pigging solids from the proposed BPXA cleaning and inspection pigging activities of the EOA, WOA, and Lisburne Produced Oil Transit Lines.

If you have any questions or comments regarding this information, please contact Kevin Hostler at 787-8449. Please copy me on your reply to this correspondence.

Sincerely,

Michael W Joynor  
Manager Oil Movements

Enclosure(s): "TAPS Impacts Assessment of Receiving Pigging Solids from BPXA Produced Oil Transit Lines – Interim Report" Controlled copy # TIAR-IR 06-001

cc: Kathy Zinn

MS 528

BPXA-LEGIS000012

9

bp



BP Exploration (Alaska) Inc  
900 East Benson Boulevard  
PO Box 196612  
Anchorage, Alaska 99519-6612  
(907) 561-5111

May 23, 2006

Mike Joynor  
Alyeska Pipeline Service Company  
P.O. Box 196660  
Anchorage, AK 99519

Dear Mike,

Thank you and your team for your willingness to discuss operational issues surrounding maintenance pigging with BP Exploration (Alaska) Inc. (BPXA). This letter is intended both to respond to Kevin Hostler's May 12, 2006 letter regarding "Receipt of Non-routine Pigging of Producers Lines" and to update BPXA's preliminary April 25, 2006 request to Alyeska for assistance in managing solids. As Mr. Hostler requested, BPXA has initiated a thorough engineering and cost analysis of its best options to remove solids into a Prudhoe Bay facility from non-routine BPXA pigging operations where large volumes of BS&W are expected. Our plan is to work with your staff in the next few weeks to advance the option to collect these "non-routine" solids in a PSI storage tank as your letter suggests.

Importantly, as we also explained to Alyeska during our May 22, 2006 meeting on this subject, new preliminary data shows that the solids loading in certain of the Prudhoe Bay oil transit lines will be similar in nature to the other lines BPXA pigs and we calculate that the pigging effluent will meet all TAPS quality specifications. As a result, in cases where solids are minimal enough to meet quality specifications, BPXA believes that pigging should be considered "routine" and handled just like the other lines BPXA and the other North Slope operators pig. We are doing a final validation of the solids data this week and have committed to providing the results to Alyeska. We intend to propose a tentative schedule for proceeding forward with pigging the Lisburne oil transit line in the near future. We request your support of this and other routine pigging operations.

Sincerely,

Maureen L. Johnson  
BPXA Vice President  
Greater Prudhoe Bay

BPXA-LEGIS000013

10

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**From:** Williams, Bruce J  
**Sent:** Wednesday, May 31, 2006 6:40 PM  
**To:** 'Joynor, Michael'  
**Cc:** Leach, Brett W; Fontaine, Katharine; Swank, Gregory R; GPD, Prod Opt TL  
**Subject:** Lisburn solids measurments.

Mike, per our conversation earlier today, here is the electronic version of the final processed GR scan data for Lisburn OT line. As we discussed, we haven't seen any significant changes in the Lisburn measurements for the preliminary (pre-processed) data.

The estimate of solids based on the average measurement of .54" is ~ 17 cu yds. The accuracy of the readings are +/- 1/2", so the actual amount could vary of course, but our best estimate remains the average of the readings.



Gamma



LPC-ALPS OT

sensation BL rev 2.gamma Scan Locatio

11

**From:** Joynor, Michael [mailto:JoynorM@alyeska-pipeline.com]  
**Sent:** Friday, June 02, 2006 4:12 PM  
**To:** Fontaine, Katharine  
**Cc:** Knutsen, Gregg E.  
**Subject:** Re: Pigging Assessment Discussion

Kathy,

As a wrap up with my core assessment team this afternoon, we developed a list of items that we will need on Monday in order to continue the evaluation and assessment of an initial pig run assessment on Lisburne.

These, by priority, are:

- 1) BPXA final draft of Lisburne POTL pigging plan including pig types, sampling plans, etc. ( We will then review and return comments on Monday)
- 2) Information on solids characteristics as utilized in the gamma scan effort ( Bill or Greg referred to these); and/or, any data on the solids typically removed at the processing facility
- 3) A blank copy of the current pig tracking/observations data template.
- 4) Draft of Site safety/spill contingency plans ( Jeff Streit, APSC, will work with BPX to develop and forward this weekend)
- 5) Potential of slugging inhibitor in advance of the pig (Bill H / Greg with CIC)

Please give me a call on my cell phone this weekend so that we may discuss. The number is 301-5299.

Thanks.

Mike Joynor

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bp



BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
P.O. Box 196812  
Anchorage, Alaska 99519-6612  
(907) 561-5111

June 6, 2006

Mike Joynor, Oil Movements Manager  
Alyeska Pipeline Service Company  
900 E Benson Blvd.  
Anchorage, Ak 99508

Dear Mike,

Thank you and your team for your efforts in working with BPXA to provide assistance in assessing options related to completing pigging operations on the Lisburne Oil Transit Line (OTL).

You and your staff met with several BPXA representatives on Friday June 2, 2006, to review the pigging procedures and solids information in order to initiate pigging operations for the Lisburne OTL. During that meeting you requested several items from BPXA prior to commencement of the initial pigging of the Lisburne OTL. The requested items are as follows:

- BPXA's Lisburne OTL pigging plan including pig types, sampling plans, etc.
- Information on solids characteristics as utilized in the gamma scan effort and/or, any data on the solids typically removed at the processing facility
- A blank copy of the current pig tracking/observations data template.
- Draft of Site safety/spill contingency plans
- Potential of slugging inhibitor in advance of the pig.

We appreciate your interest and cooperation in providing comments on our draft plans. Attached to this letter is the requested information.

We plan to initiate the first cleaning pig operation of the Lisburne OTL on Thursday June 8, 2006. Upon completion of the initial run, we will collect solids for analysis per our attached plan. If you have any questions or concerns, please feel free to contact me at 564-5146.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kemp Copeland", is written over the typed name.

Kemp Copeland  
Greater Prudhoc Bay Field Manager

BPXA-LEGIS000016

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P. O. BOX 196660, ANCHORAGE, ALASKA 99519-8660 TELEPHONE (907) 787-8556 FAX (907) 787-8924

Kevin M. Hostler  
President & Chief Executive Officer

June 7, 2006

Steve Marshall  
BP Exploration (Alaska) Inc  
900 East Benson Blvd.  
Anchorage, Alaska 99508

Subject: BPXA Pigging – LPC POTL Initial Pig Run

Dear Mr. Marshall:

In a May 23rd, 2006 letter to Alyeska Pipeline Service Company (APSC), BP Exploration Alaska (BPXA) indicated it has acquired data which indicates that the quantity of solids in certain POTL's is such that BPXA believes pigging can be accomplished without causing significant negative impacts to TAPS. We have since received and reviewed this data as it relates to the Lisburne Production Center ("LPC") line. We believe that by following certain precautionary steps outlined below, APSC would not act imprudently by proceeding to coordinate with BPXA an initial pigging run of the LPC line. Then, based upon the results of that pigging run, future POTL pigging operations can be better evaluated.

We respectfully request your confirmation that BPXA will do the following:

1. Ensure compliance with all safety, environmental, regulatory, and spill response requirements.
2. Run one pig only at this time.
3. Use the least aggressive pig such as a two cup pig or a foam cup pig in the LPC POTL for the initial run.
4. Follow the pigging plan developed by BPXA (submitted to APSC on 6/5/06) and revised by APSC on 6/6/06.
5. Perform post pig run gamma scans on previously scanned piping locations between the LPC pig receiver and PS01 to determine if solids are accumulating in this section of pipe.
6. Share all data collection information from solids and liquid analyses and other observations (e.g. subsequent gamma scans on LPC POTL piping) needed to determine the quality and quantity of materials delivered to TAPS.

By following these requirements and procedures a successful initial pigging run of the LPC POTL can be expected. These plans are limited to the LPC POTL initial pigging activity. Any future pigging activities on LPC POTL are dependant upon a successful outcome of the initial pigging run and may require revisions to these procedures and plans based on the data collected from this initial effort.

Assuming a pig run of the LPC POTL is performed you should not assume that additional pigs, either the LPC, EOA or WOA POTL's will be acceptable. In particular, we do not anticipate that pigging of the EOA and WOA POTL's can be allowed in this fashion based on the findings identified in the TAPS Impacts Assessment Interim Report. Pigging of each individual transit line will be evaluated based upon its anticipated impacts to TAPS.

BPXA-LEGIS000017

Steve Marshall  
June 7, 2006  
Page Two

We will contact the appropriate regulatory agencies and finalize plans for the initial pig run. If you have any questions or comments regarding this information, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Marshall". The signature is fluid and cursive, with a long horizontal stroke at the end.

cc: Kathy Zinn, MS 528

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**From:** Fontaine, Katharine  
**Sent:** Thursday, June 22, 2006 11:41 AM  
**To:** Joynor, Michael  
**Cc:** Williams, Bruce J  
**Subject:** Final Solids information from BPXA

Mike,

Attached below is a tabulation of the final solids data collected from the Lisburne, EOA, and WOA lines. We will be happy to provide you a copy of the final Acuren report as well.

We look forward to reviewing this information with you on Monday. Please let me know if you would like to have a copy of the report earlier than our meeting, I am sure I can hand deliver you a copy.

Take care,

nathy

**From:** Williams, Bruce J  
**Sent:** Tuesday, June 20, 2006 8:29 PM  
**To:** Johnson, Maureen L; Swank, Gregory R; Bolea, Albert N; Buckendorf, Randal; Fontaine, Katharine; Copeland, Kemp; Hedges, Bill; Leach, Brett W; Foust, Nancy C; Stash, Sandy M (bp); McKim, Bradley S; Herod, Corey; Beaudon, Daren J; Kurz, John; GPB, Prod Opt TL; Lagomarsino, James R  
**Subject:** RE: Conversation w/ Stacey Gerard

All, here are the final solids estimates for the OT lines based on the GR scan.

It is important to reinforce that the margin for error from the GR scan is 1/2". Additionally, while all the data from the various techniques didn't line up directly, we saw general agreement, usually w/in -1". Bottom line is that we expect these estimates could vary by ~ 25-50 yd<sup>3</sup> each.

I'll be on the slope tomorrow, but pls provide comments.

Segment	Est. solids depth (in) from GR Scan	Est. solids loading (yd <sup>3</sup> ) from GR Scan
LPC - PS1	0.4	11
FS2 - FS1	1	29
FS1 - SK50	0.6	24
GC1 - GC3	0.8	16
GC3 - SK50	1.9	70
Total GC1- SK 50		86
GC2 - GC1	2.8	147

Here are the key points associated w/ the estimates

- The basis for the solids estimates provided is a measurement from a Gamma- Attenuation Measurement Survey. This tool allows estimates of solids in the pipe based on the amount of

gamma absorption by the sediment in the pipe and the measurement of the resulting reduction in gamma radiation at the tool sensor.

- Prior solids estimates data submitted to Alyeska and DOT consisted of preliminary unprocessed data. Subsequent to the original data release, we have undertaken substantial data validation and calibration verification efforts for the Gamma Scan data collected. In follow up tests and analysis, it was discovered that the initial measurements were incorrectly interpreted due to a phenomenon known as secondary radiation. GR Tests were rerun a second and third time to verify the accuracy of the final measurement.
- While other methods were also used to estimate solids loading, the GR data is considered the most accurate. Accuracy of the GR data is considered to be +/- ½ inch This data has also been compared with UT, velocity survey, and thermography techniques. In general, the other techniques show agreement with the solids estimates from GR w/in about +/- 1 inch
- Additionally, recent pigging results from the Lisburn OT line verify that the GR data is representative w/in its expected margin of error. While the GR data indicated an average depth of .4" (+/- ½ inch) for an estimate of ~ 11 yd<sup>3</sup> of solids, actual solids from the cleaning pigging appears to be on the order of about 1 yd<sup>3</sup>.

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bp



BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
(907) 561-5111

6/27/06

Mike Joynor, Oil Movements Manager  
Alyeska Pipeline Service Company  
900 E Benson Blvd.  
Anchorage, Ak 99508

Dear Mike,

Thank you and your team for your efforts in working with BPXA to provide assistance in assessing options related to completing pigging operations on the upstream section (FS2 to FS1) of the Eastern Operating Area (EOA) Oil Transit Line (OTL).

You and several of your staff met with BPXA representatives on Monday June 26, 2006, to review the pigging plan and solids information for the FS2 to FS1 section of the EOA OTL. As discussed our plan is to complete the following actions:

1. Proceed with pigging the FS2 to FS1 section, where we know there is a low volume of solids.
2. Collect liberated solids from the pig receiver at FS1 for analysis.
3. Decide how to proceed with pigging of the FS1 to Skid 50 section after analyzing the solids from FS2 to FS1 and assessing the impacts posed to TAPS.


During the 6/26/06 meeting you requested several items from BPXA prior to commencement of the initial pigging of the EOA OTL. The requested items are as follows:

- BPXA final draft of EOA OTL pigging plan including procedures, pig types, sampling plans, spill contingency plans, etc.
- Information on solids volumes as estimated utilizing the gamma scan effort. (This was provided to Alyeska during our meeting in the Acuren report).
- Overview of the volumes estimates and characteristics. (This was provided to Alyeska in a power point presentation, hard copy given to Alyeska personnel).

We appreciate your interest and cooperation in providing comments on our plans. Attached to this letter is the requested information that was not previously submitted.

We are planning on initiating the first cleaning pig operation of the upstream section of the EAO OTL on Saturday July 1, 2006. Upon completion of the initial run, we will be collecting solids for analysis per our attached plan.

Sincerely,

  
Kemp Copeland  
GPB, Field Manager

BPXA-LEGIS00021

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P.O. B. 196680

ANCHORAGE, ALASKA 99519-6680

TELEPHONE (907) 767-8700

June 29, 2006

Maureen Johnson  
Vice President, Greater Prudhoe Bay  
BP Exploration (Alaska) Inc.  
900 East Benson Boulevard  
Anchorage, Alaska 99519-6612

RE: Notice of BPXA Pigging on Upstream Portion of Eastern Operating Area Oil Transit Lines

Dear Maureen:

I received the letter of June 27, 2006 from Kemp Copeland in which BPXA states that it intends to commence pigging of the upstream portion (FS2 to FS1) of the Prudhoe Bay Eastern Operating Area (EOA) Oil Transit Lines (OTL) on Saturday, July 1, 2006. BPXA provided this information to Alyeska in the form of a notice, not in the form of a request for approval.

We find it encouraging that BPXA's expert consultants have concluded, after investigation, that the volume of pigging solids likely to result from this activity may be considerably less than originally estimated by BPXA. It is also encouraging that BPXA has developed a plan to monitor and assess these pigging solids while the pigging activity is in progress. Finally, it is encouraging that the pigging BPXA contemplates at this stage will all take place nearly five (5) miles upstream from the nearest TAPS facilities; and that BPXA had not yet decided on a course of action with respect to pigging solids that may already exist or that may settle out in the five-mile segment between the site of the forthcoming pigging activities and the nearest TAPS facilities.

However, we are disappointed that BPXA appears to be proceeding – even far upstream from TAPS – in a manner inconsistent with the May 12, 2006, letter from Alyeska's President and CEO Kevin Hostler to BPXA's President Steve Marshall. In that letter, Alyeska made several points clearly: We will not agree to accept any volume, concentration, or character of pigging solids directly into the TAPS main pipeline that impacts the safe and efficient transportation of crude oil by TAPS; we strongly prefer that BPXA handle these pigging solids upstream of TAPS. However, if necessary we are willing to work with BPXA on plans for the possible use of TAPS Pump Station One tankage for the handling of such solids, if that is the most reasonable course of action after BPXA investigates and explains its other alternatives. We also indicated that we require an agreement from BPXA regarding these pigging solids and their possible impacts on TAPS, including indemnification, financial responsibility, and cost recovery and reimbursement provisions.

The fact that the Lisburne OTL proved to have very little in the way of pigging solids, while gratifying, does not obviate Alyeska's expressed concerns and position regarding pigging solids from the Prudhoe Bay OTL. Similarly, neither BPXA's current and greatly reduced estimate of likely pigging solids from the Prudhoe Bay OTL nor the fact that BPXA at this stage is working far upstream of TAPS, while also reassuring, can obviate Alyeska's expressed concerns and position as set forth in our May 12 letter.

BPXA-LEGIS00022

June 29, 2006

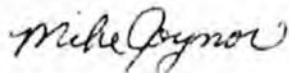
BPXA's decision to begin pigging the upstream EOA OTL on July 1 without the conditions of our May 12 letter being satisfied prompts us to reiterate that such pigging is not a TAPS activity nor does it involve TAPS facilities. It is a Prudhoe Bay Unit (PBU) activity carried out on PBU facilities for the PBU's benefit. We are not in a position to endorse or refute either BPXA's most current information supplied to Alyeska, or the implicit assumption that the risk of excessive pigging solids reaching TAPS as a result of your July 1 activities is very small. In any case, that risk is properly borne by BPXA as operator of the PBU, not by Alyeska, the TAPS Owners, TAPS itself, or third parties who rely on TAPS. Should BPXA's pigging activities result in any harm to Alyeska employees, TAPS facilities, third parties, or the environment, or should such activities lead to any permit violations or third party claims against Alyeska and/or the TAPS Owners of any kind, or any other costs, then Alyeska and the TAPS Owners will consider BPXA responsible and will require that BPXA fully indemnify and hold harmless Alyeska and the TAPS Owners.

Please note that the PBU connection facilities and PS1 are not designed to accommodate significant amounts of solids. In addition the PBU connection does not contain nor can it be easily modified to provide an open spool piece to prevent meter run obstruction or damage. Consequently, if BPXA's estimates prove to be wrong and significant amounts of solids obstruct the PBU line, the consequences could be very significant.

At the same time, Alyeska asks that BPXA abide by our May 12 letter (unless voluntarily modified by Alyeska in response to new pigging solids data provided by BPXA) with respect to any pigging activities on the Prudhoe Bay OTL that would be carried out nearer to TAPS facilities than those you intend to commence on July 1.

To make clear the dividing line between PBU activities, facilities, benefits and liabilities, on the one hand, and TAPS activities, facilities, benefits and liabilities on the other, Alyeska has also decided that, in the circumstances, it is now prudent and necessary to ask BPXA to execute a Connection Agreement for the PBU Connection. The draft Connection Agreement we provide you will be based on and reflect the most recently approved TAPS connection agreement, namely the Northstar connection agreement, which was signed by BP Transportation (Alaska) Inc., as well as the model connection agreement submitted to the Regulatory Commission of Alaska (RCA) prior to the Northstar connection agreement and approved by the RCA thereafter. We ask that BPXA promptly sign this Agreement. As usual in connection agreement matters, Alyeska on behalf of the TAPS Owners will then file the PBU Connection Agreement with the RCA for approval.

Sincerely yours,



Mike Joynor  
Manager, Oil Movements Department

cc: Kevin Hostler, President  
Jordan Jacobsen, General Counsel  
Robert Shoaf, Compliance Officer  
Jerry Brassia, JPO  
Frederick Thompson, State Pipeline Coordinator

MS 528  
MS 569  
MS 502  
411 West 4<sup>th</sup> Ave, 99501  
411 West 4<sup>th</sup> Ave, 99501

17

bp

Steve Marshall  
President, Alaska



BP Exploration (Alaska) Inc  
900 East Benson Boulevard  
P.O. Box 196612  
Anchorage, Alaska 99519-6612  
(907) 564-5422

July 24, 2006

Kevin Hostler  
President & Chief Executive Officer  
Alyeska Pipeline Service Company  
P.O. Box 196660  
Anchorage, AK 99519-6660

Subject: Update for the May 12, and June 29, 2006 letters from APSC

Dear Kevin,

I want to thank you and your organization for all the technical work and cooperation that Alyeska has demonstrated during our initial maintenance pigging runs for our oil transit lines (OTLs). The updated solids estimates, which are substantially lower than originally anticipated, have been shared with your technical staff, DOT, and JPO. The Lisburne OTL and the 30" segment of the Eastern Operating Area (EOA) OTL have been successfully pigged and smart pigged. We believe that maintenance pigging of our other OTLs can be successfully managed through the cooperation and joint technical acumen of our operations staff.

We provided Alyeska with an original pigging plan for our OTLs on April 25, 2006. Subsequent to that plan we have provided Alyeska with detailed line-specific plans prior to each of the Lisburne and EOA 30-inch pigging operations. A revised plan to clean and smart pig our OTLs is outlined below, with details explained further in the letter.

- Initiate and complete the cleaning of the FS1 to Skid 50 by November 2006
- Smart pig the FS1 to Skid 50 section immediately following completion of cleaning
- Install pig launcher at GC1 by October 2006
- Initiate cleaning and smart pigging of the downstream section of the WOA line downstream of GC1 by November 2006
- Install new upstream section of WOA (replacement piece for the OT21 section)
- Initiate routine pigging of the new OT21 section

Representatives of BPXA and Alyeska met on July 13, 17 and 29, 2006 to review solids handling options for pigging the 34-inch EOA section and the in-service WOA section. The options presented by BPXA and Alyeska to meet our November 2006 pigging target included:



BPXA-LEGIS00024

Kevin M. Hostler  
Page 2 of 2  
July 24, 2006

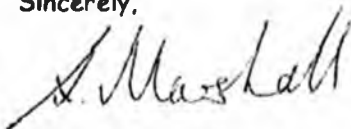
- 1) BP: Diverting the pigging envelope to FS3 through the GC3 - FS3 Fizzy oil line;
- 2) BP: Installing new piping from Skid 50 to FS3 and divert the pigging envelope to FS3;
- 3) APSC: Bypassing the meters to Tank 110 through new piping hot tapped from the main line to Tank 110 (requires tank penetrations); and
- 4) APSC: Connecting the 24" take-in-kind line at Skid 50 and extending the piping to Tank 110 (requires tank penetrations).

As we discussed, BPXA is actively pursuing Option 1, and Alyeska intends to continue to pursue Options 3 and 4. As you also know, the US Department of Transportation has specifically requested that TAPS options be explored via their most recent amended Corrective Action Order. We would like to reconvene to review the preliminary engineering and feasibility and construction timing on these options around August 1<sup>st</sup>.

BPXA agrees to develop a funding agreement with Alyeska to cover extraordinary costs associated the evaluation and handling the solids associated with pigging of the GPB OT lines. The funding agreement will include risk analysis conducted to date to assess the handling of solids at TAPS, preliminary engineering of solids handling projects, materials and labor contingent upon the decision to approve with one of the Alyeska solids handling options, and work related to activities associated with strainer monitoring and cleaning.. We will include in the funding agreement provisions covering indemnification for hold harmless obligations.

We appreciate the efforts your staff has made so far complete the Lisburne line cleaning and the FS2 to FS1 cleaning.

Sincerely,



Steve Marshall

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**From:** Livett, Ian G  
**Sent:** Saturday, September 30, 2006 9:33 AM  
**To:** Johnson, Maureen L; Copeland, Kemp; Kurz, John; Williams, Bruce J; Lagomarsino, James R; Fontaine, Katharine  
**Subject:** FW: Existing level of tank bottom solids in Tank 110 at PS01

Not sure how accurate this is, but at least we have something from Alyeska on the level of solids in tank 110 before we started pigging the EOA 34" OTL.

Ian

---

**From:** Joynor, Michael [mailto:JoynorM@alyeska-pipeline.com]  
**Sent:** Friday, September 29, 2006 4:40 PM  
**To:** Livett, Ian G  
**Subject:** Re: Existing level of tank bottom solids in Tank 110 at PS01

Ian,

Per your request, the following information on the existing volume of tank bottom in Tank 110 was provided by APSC Engineering:

Investigation into the "pre-existing" tank bottoms levels performed in early July indicated approximately one foot of solids in the bottom of the tank. This equates to approximately 4750 BBLS with a confidence of +/-25% for a tank of this size. Four thermograph sample points and a data run through IOL's SMART program simulation for the basis for these numbers.

Call if you have any questions.

Mike Joynor

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**From:** Livett, Ian G  
**Sent:** Thursday, November 02, 2006 10:09 AM  
**To:** Williams, Bruce J; Kurz, John; Fontaine, Katharine; Swank, Gregory R; Lagomarsino, James R; Hauger, Wayne A; Ennis, John O  
**Subject:** FW: APSC EOA S&W Results

Interesting comment from Mike Joyner!  
Ian

---

**From:** Joynor, Michael [mailto:JoynorM@alyeska-pipeline.com]  
**Sent:** Wednesday, November 01, 2006 5:23 PM  
**To:** Livett, Ian G; Marklet, Perry A (APS)  
**Subject:** RE: APSC EOA S&W Results

Ian,  
We have completed the re-shoot and are completing the analysis. I hope to be able to discuss with you by Monday. I can say, preliminarily, there was a significant increase in the tank bottom level (heavy solids, etc.) resulting from the EOA pigging.  
Mike Joynor

---

**From:** Livett, Ian G [mailto:Ian.Livett@bp.com]  
**Sent:** Wednesday, November 01, 2006 5:17 PM  
**To:** Markley, Perry A.  
**Cc:** Joynor, Michael  
**Subject:** RE: APSC EOA S&W Results

Thanks for this Perry. We are performing a comparison of this with our own sample analyses and will share the results with you.  
Even though the sediment volumes are relatively small, have you attempted to re-shoot the level of solids in tank 110?  
Ian

**From:** Markley, Perry A. [mailto:MarkleyPA@alyska-pipeline.com]  
**Sent:** Monday, October 30, 2006 3:40 PM  
**To:** Livett, Ian G  
**Cc:** Joynor, Michael  
**Subject:** APSC EOA S&W Results

Ian, Mike Joynor asked that I send you the APSC EOA FS01 to TK-110 suspended S&W lab results obtained during TIK-Bypass activities. The attached results are for flowing samples collected from a point just downstream of the 24" to 12" reducer through an API probe inserted approximately 1/3 into the pipe. As mentioned within the attachment, the sediment results only reflect inorganic materials such as sand scale and rust which are a small part of the pigging solids received.

If you have any questions please for hesitate to contact me,  
Perry

APSC EOA FS01 to TK-110 Suspended S&W Lab Results											
Date	Run Number	Pig Type	Switch Times		TK -110 Receipt Total	Sediment		Water		S&W Total	
			Open	Close		Sediment %	bbbs	%	bbbs	Total %	bbbs
9/30/2006	#1	Foam	11:47	13:16	10889	0.362	39.4	4.083	444.6	4.444	484.0
10/1/2006	#2	2 cup	11:55	13:38	10884	0.115	12.5	2.919	317.8	3.034	330.3
10/4/2006	#3	2 cup	11:45	12:57	9882	0.062	6.1	2.496	246.6	2.558	252.8
10/5/2006	#4	3 disc 2 cup	11:48	13:09	10953	0.049	5.4	2.031	222.5	2.080	227.8
10/6/2006	#5	6 disc	11:50	13:11	10873	0.033	3.6	2.656	288.8	2.690	292.5
10/7/2006	#6	6 disc brush	12:02	13:09	9014	0.042	3.8	3.813	343.7	3.857	347.7
10/8/2006	#7	Gauge	14:06	15:17	7719	0.036	2.8	5.934	458.0	5.970	460.8
10/15/2006	#8	Smart	15:46	17:04	8863	0.082	7.2	7.335	650.1	7.416	657.3
10/18/2006	#9	Smart	13:13	14:28	8121	0.029	2.3	0.982	79.8	1.011	82.1
<b>Totals</b>					87198		80.8		2972		3053

**NOTE:**

- ASTM D 4928 Determination of Sediment in Crude Oil and Fuel Oils by Extraction Methods
- ASTM D 4007 Determination of Water and Sediment in Crude Oil by The Centrifuge Method
- ASTM D 0473 Standard Test Method for Water in Crude Oil by Coulometric Karl Fischer Titration

The sediment results above reflect only the finer inorganic materials such as sand, scale and rust within the pigging solids received during the TIK-bypass / TK110 utilization. Only the smaller pigging solid particulates could be captured from the 1/2" sample port. Organic materials such as paraffin's, sludge and asphaltines that were liberated from the pipeline are not represented.

Exhibit

2



# United States Department of the Interior



## BUREAU OF LAND MANAGEMENT

411 West 4<sup>th</sup> Avenue  
Anchorage, Alaska 99501  
<http://www.ak.blm.gov>

SEP 27 2006

Letter No.: 06-091-RN  
Case File Serial No.: F-12505  
Section/Stipulation: 1.7.1 and 1.7.4  
Facility Code: F4020  
DD: N/A

Mr. Robert I. Shoaf  
Compliance Officer  
Alyeska Pipeline Service Company  
P.O. Box 196660, MS 502  
Anchorage, AK 99519-6660

**Re: Request for Modification of NTP Condition of Approval 3(b) for Two 12-inch Diameter Hot Taps on Tank 110, Alyeska Letter No. 9805, dated September 25, 2006**

References: Alyeska Letter No. 9476, dated August 11, 2006  
Alyeska Letter No. 9512, dated August 16, 2006  
Alyeska Letter No. 9553, dated August 21, 2006  
Alyeska NTP Briefing for PS01 Tank 110 Hot Taps, August 23, 2006  
Alyeska Letter No. 9566, dated August 25, 2006  
JPO Letter No. 06-079-RN, dated August 25, 2006  
JPO Letter No. 06-077-RN, dated August 29, 2006  
JPO Letter No. 06-078-RN, dated August 29, 2006  
Alyeska Briefing for Alyeska Letter No. 9705, September 11, 2006  
JPO Letter No. 06-090-RN, dated September 19, 2006  
Alyeska Letter No. 9792, dated September 21, 2006  
Alyeska Letter No. 9737, dated September 26, 2006

Dear Mr. Shoaf:

Alyeska Government Letter No. 9805, dated September 25, 2006, requests modification to condition 3(b) of the Notice to Proceed (NTP) (JPO Letter No. 06-078-RN, dated August 29, 2006) for the hot tap welding on Tank 110 at PS01. Condition 3 of the NTP stated:

3) Prior to the PS01 bypass line and/or post-capture processing equipment becoming operational:

Mr. Robert I. Shoaf  
Letter No. 06-091-RN

2

SEP 27 2006

Re: Request for Modification of NTP Condition of Approval 3(b) for Two 12-inch Diameter Hot Taps on Tank 110.  
Alyeska Letter No. 9805, dated September 25, 2006

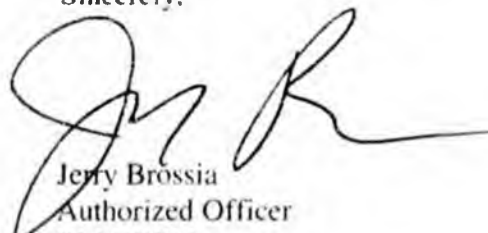
- a. Provide the JPO with the stress analysis for bypass line piping and piping/tank connections which consider all applicable in-service conditions. Analysis shall be stamped by a State of Alaska Registered Professional Engineer.
- b. Alyeska shall receive all applicable State Fire Marshal approvals for process equipment, locations, and enclosures.

Alyeska's request for modification to the NTP is approved and condition 3(b) is modified such that Alyeska can operate the PS01 bypass line prior to receiving the applicable State Fire Marshal approvals for process equipment, locations, and enclosures. In discussions with the State Fire Marshal's Office, they have no issues with the requested modification to the NTP. However, it should be noted that in accordance with State of Alaska laws and regulations, State Fire Marshal approval of the post-capture pigging materials processing system must be obtained prior to operating the post-capture pigging materials processing system. All other conditions of the NTP remain valid.

All terms, conditions and stipulations contained in the Federal Agreement and Grant of Right-of-Way for the Trans-Alaska Pipeline and Related Facilities, dated January 3, 2003 and the Renewal and Amendment of the Right-of-Way Lease for the Trans-Alaska Pipeline dated November 26, 2002 are incorporated by reference. The above does not abrogate the responsibility of Alyeska Pipeline Service Company to obtain any and all authorizations necessary for construction of the project under all applicable State and Federal laws and regulations.

For comments or questions related to the above, please contact Tom Johnson at 257-1339.

Sincerely,



Jerry Brossia  
Authorized Officer  
BLM/OPM

cc:

Nolan Heath, BLM  
Joe Correa, BLM  
Mike Thompson, ADNR  
Tom Johnson, BLM  
Doug Lalla, BLM  
Jon Strawn, USDOT  
Becky Lewis, ADEC  
Ron Abernathy, BLM  
Ron Watts, SFMO

BPXA-LEGIS00031

Exhibit

3



P.O. Box 186680, MS 575

ANCHORAGE, ALASKA 99519-0680

TELEPHONE (907) 787-8331

December 20, 2006

Government Letter No. 10642  
APSC File No. 2.9

Joint Pipeline Office  
411 West 4<sup>th</sup> Avenue, Suite 2  
Anchorage, Alaska 99501

Attention: Jerry Brossia, Authorized Officer, BLM/OPM  
Michael Thompson, Acting State Pipeline Coordinator, ADNRS/SPCO

Subject: BPXA TAPS Bypass – Tank 110 Return to Normal Operation

References: JPO Letter No. 06-090-RN (MAC Issue #9786), dated September 19, 2006  
JPO Letter No. 06-078-RN (MAC Issue #9595), dated August 29, 2006  
JPO Letter No. 06-077-RN (MAC Issue #9594), dated August 29, 2006

Dear Mr. Brossia and Mr. Thompson:

By copy of this letter Alyeska formally notifies the JPO of its intent to return TK-110 to normal operations by COB Friday, December 22, 2006. It is our intention to meet and discuss this matter with you no later than Thursday, December 21.

The tank has been isolated after first receipt of BPXA pigging materials on September 30<sup>th</sup>, 2006. A total of 16 pigging events between BPXA's East Operating Area (EOA) and West Operating Areas (WOA) Units were directed into TK-110 at Pump Station 1.

Based upon thermographic analysis of the tank before receipt of pigging materials, after receipt of pigging materials, and at completion of processing activities, it has been determined that the tank is in, as clean or cleaner condition, than prior to the receipt of any pigging materials. As such, the tank is fit for a return to normal operations.

Demobilization of the processing skid equipment is proceeding and ongoing. The connection piping to BPXA's Skid-50 facility has been completely removed on both sides of the remnant Take-In-Kind line. The final clean-up and demobilization of all equipment and piping is anticipated to be completed in 2Q of 2007.

In keeping with previous correspondence on the subject matter, Alyeska is proceeding with the scheduled cleaning and internal inspection activities of TK-110 in 2Q 2007. Also the Design Basis Update, DB-180, will be modified to reflect the modifications to the tank in preparation for the subject pigging activities.

Please find a brief narrative of the processing events, thermographic analysis, and attendant material balance for this work.

If you have any questions or comments regarding this information, please contact myself (907) 787-8331 or Rob Annett at (907) 787-8167.

Sincerely,

Michael W. Joyner  
VP Oil Movements

BPXA-LEGIS00032

Enclosures

General Process Description  
Thermographic Analysis  
Material Balance Pictorial

MWJ/rca

cc: Rob Shoaf	APSC	MS 502
Jeff Streit	APSC	MS PS01
Doug Ooms	APSC	MS PS01
Jerry L. Brossia	BLM/JPO	MS 600
Dan O'Barr	SOA/JPO	MS 600
F. Michael Thompson	ADNR/SPCO	MS 600
Ron Watts	SFMO/JPO	MS 600

Joint Pipeline Office  
BPXA TAPS Bypass – TK-110 Return to Normal Operations

Government Letter 10642  
December 19, 2006

Page 3

bcc: Cathy Zinn	APSC MS 528
Jim F. Johnson	APSC MS 548
Lorena Hegdal	APSC MS 850
Willie Hensley	APSC MS 542
Lee Schoen	APSC MS 854
Elizabeth Engle	APSC MS 534
Rob Annett	APSC MS 534
Jordan Jacobsen	ASPC MS 569

## BPXA Pigging Solids Processing General Process Description

In March 2006, BPXA discovered internal corrosion in their transit lines from BPXA's East Operating Area (EOA) and West Operating Area (WOA) facilities. This resulted in their need to clean the internal surfaces of the transit lines through the use of scraper pigs in preparation for inspection with instrumented corrosion detection pigs. BPXA estimated that the cleaning would require 60 pig runs and would generate over 1570 cubic yards of solids, wax and/or asphaltenes. BPXA also anticipated the materials would contain approximately 15% water. Based on BPXA's estimates, Alyeska conducted an assessment on the impact to TAPS equipment that this amount of acute solids would have. This assessment determined that the materials should not be directly pigged into TAPS without being processed to remove excess water and solids; and the JPO agreed.

After completing research of possible options for how to handle the pigging solids, BPXA decided to utilize Tank 110 at APSC's Pump Station 1 to capture and retain the pigging materials. APSC would process the captured pigging material from Tank 110, return on-spec oil to TAPS, and dispose of the solids and water separated by the process.

APSC designed and assembled pigging solids processing equipment during the September timeframe with processing capacities that were aligned with the quantities of materials that BPXA anticipated transferring to Tank 110. The advanced staging of the equipment was required to manage the expected large volumes of solids anticipated, based on the BPXA estimates, and to maintain the viable utilization of the limited capacity of Tank 110 even with decanting capability. The system assembled included: jet mixers installed on Tank 110 as well as a processing skid comprised of two spiral heat exchangers, two decant style centrifuges to remove the bulk solids, two disk stack centrifuges to separate the oil and water, a large solids thermal processor, an extensive vapor handling system as well as a granular activated carbon water treatment system.

During October and November, BPXA cleaned the WOA and EOA transit lines through a total of 16 pigging events. The transfer of the pigging materials from Skid-50 to Tank 110 was accomplished via a temporary pipeline, designed and constructed by APSC for this specific purpose. Baseline thermographic analysis conducted on the tank prior to acceptance of BPXA pigging materials indicated that approximately 4730 bbls of tank bottom material had accumulated in the tank over the course of 9 years of service.

After the pigging events were completed, thermography estimates placed the total volume of pigging solids received in the tank at approximately 11,720 bbls of solids material, comprised largely of wax with trace amounts of sediment. This estimated volume does not distinguish between received materials and ongoing precipitation of wax within the tank. However for the purposes of the project this volume was used as a baseline condition.

Based on information provided by BPXA, it was estimated that the solids materials consisted of 50% solids, 35% asphaltenes and 15% water. A characterization of the waxy material received in Tank 110 was attained by vertical profiling and laboratory analysis by the Analytical Services group. This activity was performed after the solids were suspended using the jet mix system. The thermography analysis, in conjunction with vertical profile data, and subsequent material balance, indicated the solids from the BPXA pigging contained only 292 BBL of water and 32 BBL of sediment or 0.27% sediment and 2.5% water, emphasizing the high wax content of the pigging material and its eventual recovery as solubilized hydrocarbon. The water and solids recovered by the process will be shipped off-site for disposal pending analytical results. The recovered crude oil was returned to TAPS through the process.

Upon initiation of the pigging activities, Tank 110 was isolated from normal service. The tank level continued to rise as the pigging trans-mix from each pig run was introduced into the tank. In

order to manage the crude oil level within the tank, decanting was performed from the 10-foot level when lab data indicated that crude oil quality at that level met the BS&W specification required by the TAPS operating agreement. Management of the tank level continued throughout pigging operations by decanting from the 10-foot level and monitoring the quality of the crude to TAPS. The ability to decant on-spec oil throughout the receipt of all pigging events was an early indicator that the quality of the received material was significantly lower in solids than expected. No treatment of received solids was necessary during the pigging process and the entire EOA and WOA pigging material volume was contained within Tank 110 prior to the start-up of the processing system.

The pigging was completed later than initially estimated by BPXA. This coupled with a 45-day delay in securing an air quality permit for the construction and operation of the Pump Station 1 pigging material treatment skid drove the start of material processing out into early November. The late start pushed execution of the process into a season with ambient temperatures that dipped to as low as -25° F. The cold ambient temperatures caused the tank product temperature to become the critical element to manage. Colder tank temperatures hampered the project team's ability to move and process the pigging materials. Without the beneficial introduction of hot crude oil in the tank the product temperature within the tank would continue to drop to the point that wax precipitation occurs. Higher tank temperatures were achieved by the repeated introduction of hot crude oil into the tank. By elevating the tank temperature in conjunction with fluidization, the project team was able to keep the wax solubilized and mitigated its further accumulation in the tank. Prior to decanting the product was laboratory tested at the decant level for water and sediment to assure a suitable product was introduced into TAPS.

Maintaining the decanted crude on-spec was achieved by effective control of the jet mix energy and frequent laboratory testing. This resulted in the need to establish optimal operating regimes that provided adequate suspension and shearing of the accumulated wax with the entrained solids and water to provide suitable feed to the processing skid, while simultaneously allowing "co-processing" of on-spec crude from the 10-foot decant line enabling additional hot crude oil to be added for temperature control. This processing "balancing act" was critical for the effective management of the three key elements (temperature, mixing energy, dissolving of wax) required to achieve the goal of recovering the crude oil from the pigging solids without returning the entrained solids and water.

The colder ambient temperatures created other difficulties with the ancillary piping that fed the process skids. All feed, water and return lines had to be heat traced with electrical tracing or glycol heat lines. Tank water draw nozzles had to be heated with hot air to keep the nozzles thawed and free of ice. Walking and driving surfaces required constant maintenance to keep them free of ice and safe. Emergency drain down plans and procedures were developed to accommodate an emergency shutdown for high wind and extreme temperature events that occur at Pump Station 1 during this time of year.

The processing equipment was started after the pigging operations were complete and all of the regulatory approvals, including the ADEC air quality permit for the processing activity, were received. The process system required a number of modifications to accommodate the weather encountered due to BPXA and permitting schedule delays, quality variances between what was actually received versus what BPXA had told APSC to anticipate and falling temperatures of the material in the tank. Process procedures were developed to allow a low draw off line tank from the water draw valves (<1 foot elevation) to more effectively separate water and sediment from the crude oil.

The additional process modifications that allowed for simultaneous or independent decant and processing of material from the 10-foot decant line or the 6-inch water draw valves. When the tank levels dropped below the upper decant elevation and only the two 6-inch water draw points could be utilized, the material could be routed to either processing or decanting dependent on the material quality based on laboratory sampling. APSC Analytical Services continued to test for

BPXA Pigging Solids Processing  
General Process Description

BS&W on the crude oil feed to the process and also on the product returning to TAPS. It was determined that the material feeding the processing skid was on-spec a majority of the time and could be effectively controlled with adjustment to the fluidization jets. This enabled both decanting and processing to be utilized to off-load saleable crude oil into TAPS. When the material was on-spec decanting was employed, when the material did not meet specification then the 6-inch water draw feed was routed to the processing skid to attain a product which consistently met the required quality specification.

This co-processing approach proceeded with intermittent hot crude oil refills to the tank, fluidization or jet mixing of the tank contents and analytical testing of the product quality. Analytical Services also performed periodic vertical profiling of the tank to define the variation of the material quality across the tank depth and established the required processing volumes to return Tank 110 to "on-spec" status. Thermographic evaluations were employed to help identify the amount of wax that had been suspended and sheered/dissolved into the warm crude in the tank.

A comprehensive material balance that included merging data from thermographic analysis, vertical BS&W profiles, processing skid inlet and outlet water and solids, etc. was utilized to determine the efficiency of the hydrocarbon recovery and solids / water removal system. The analysis indicates that virtually all of the 292 BBL of water and 92% of the 32 BBL of sediment that entered Tank 110 as pigging solids were removed from the oil processed through the skid. The jet mixing unit was able to shear all of the pig wax that entered allowing it to dissolve with the warm crude introduced into the tank. The decant system was on-spec over 90% of the time. Infrequent excursions were always held very close to the target limits and rapidly controlled through effective use of jet mixer energy.

The reintroduction of dissolved wax as recovered hydrocarbon through either the decant line or the processing skid was directed into TAPS through a local connection adjacent to the tank. The volume of material commingled with the ongoing TAPS stream was typically less than 3% of the total TAPS throughput over the course of the project.

The processing of the pigging solids was successfully executed in less than 20 processing days under extremely challenging weather conditions. The tank isolation valves and attendant piping to the tank were back-flushed to clear them of any accumulated pigging material prior to cessation of processing. This ensured that every attempt was made to clean and process any pigging materials introduced into the tank. The final vertical profile results indicated that even at the lowest levels within the tank that the tank met crude oil quality specifications. The actual values are depicted in Table 1.

**Table 1 – Final Vertical Profile Laboratory Data**

Tank Level	%H2O v/v	%Sed v/v	Total %S&W v/v
1.0'	0.213	0.015	0.228
2.0'	0.211	0.006	0.216
3.0'	0.215	0.012	0.227

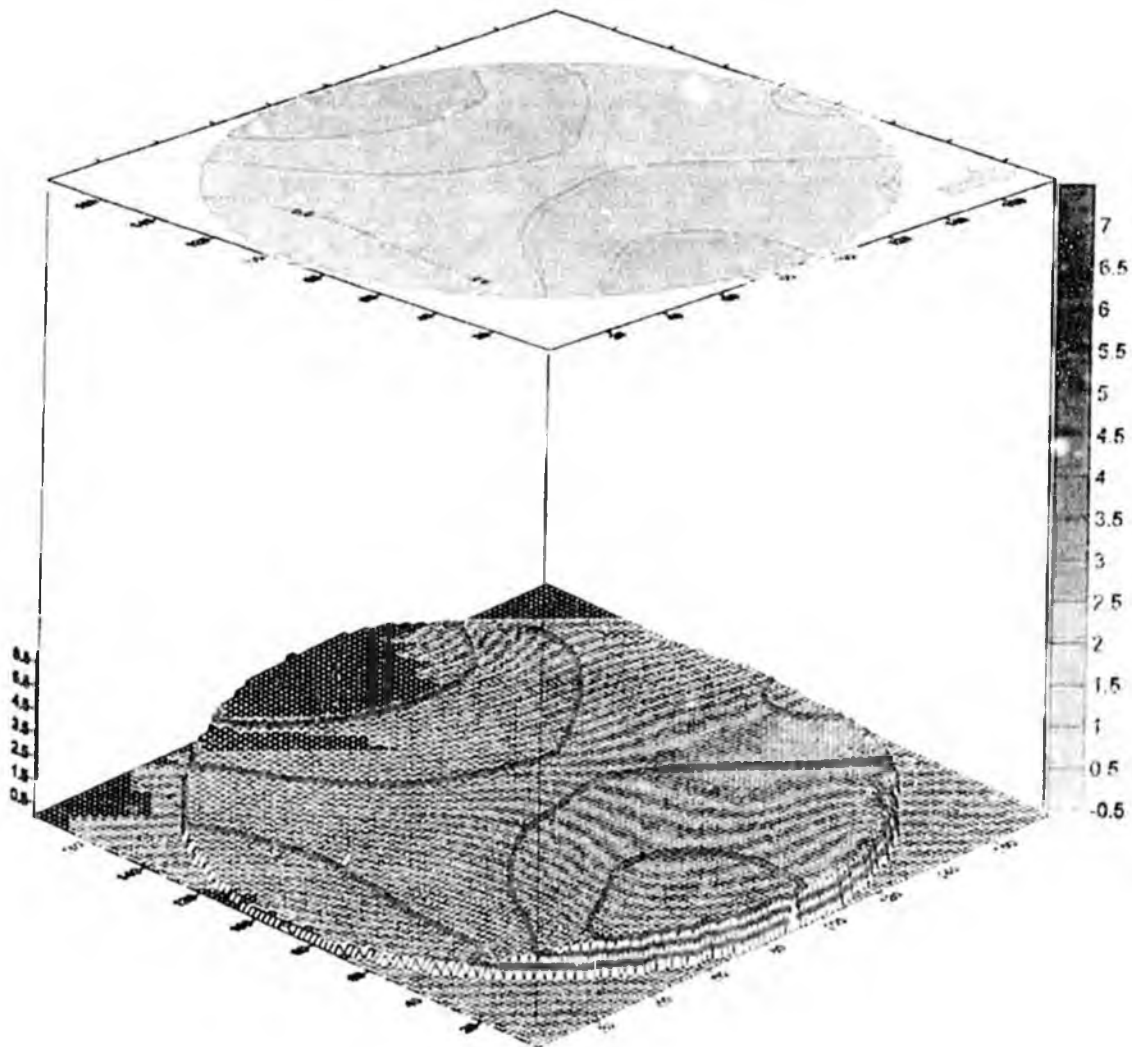
Based upon all laboratory and thermographic analyses the tank is as "clean or cleaner" than before the start of BPXA's pigging activities. As such the tank was deemed ready to be put back to normal operations on Thursday, December 14<sup>th</sup>, 2006. Processing equipment demobilization followed immediately and is ongoing.

**TK-110 Thermographic / 3-D Fluid Dynamic Modeling**  
**Initial Tank Bottoms Profile Prior to Pigging Project**

Tank Bottoms level prior to any crude or pigging slurry transfer to tank. This is the "hardpan" or very solid wax layer present in the tank resulting from periodic service and associated wax precipitation.

**Alyeska 110 Tank (ANS Crude) - Pre Jet Mixing**

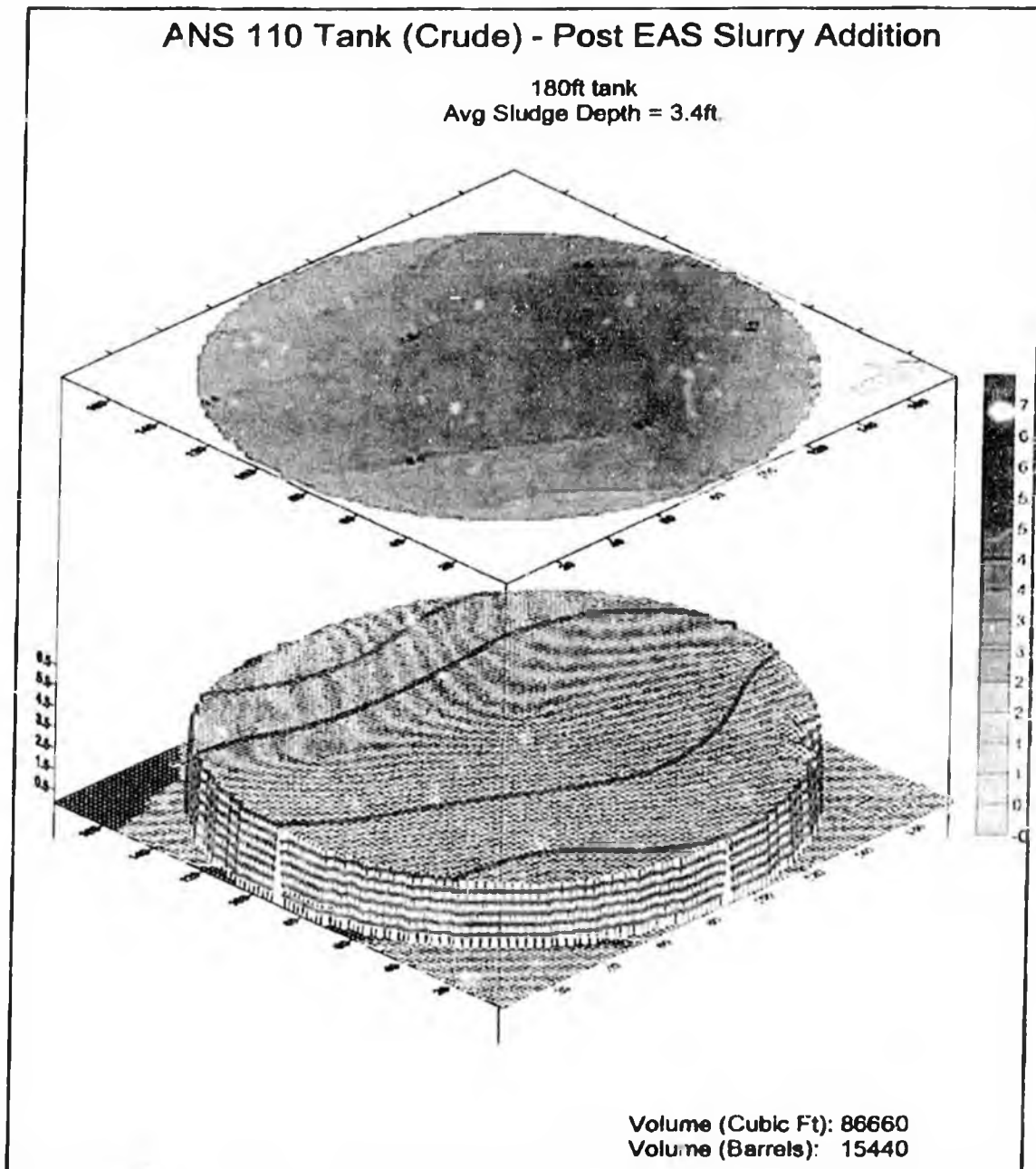
180ft tank  
Avg Sludge Depth = 1.04ft.



Volume (Cubic Ft): 26580  
Volume (Barrels): 4730

**TK-110 Thermographic / 3-D Fluid Dynamic Modeling**  
**Tank Bottoms Profile after EOA Piping Slurry Transferred to TK-110**

Tank bottoms level rose significantly after introduction of EOA Slurry into TK-110. The bottoms volume increase was 10,710 BBL as compared to the original "hardpan" value prior to the project.

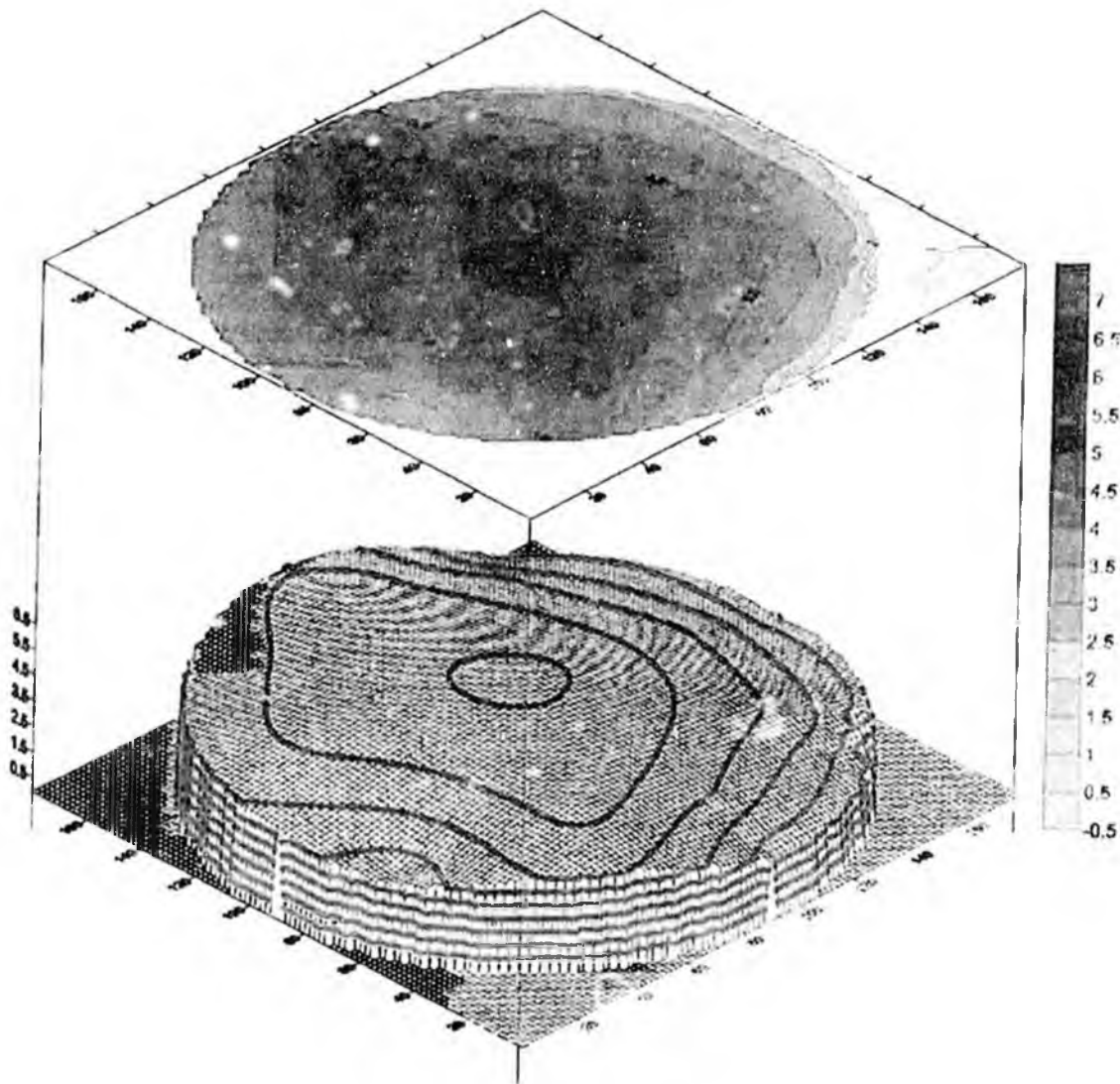


**TK-110 Thermographic / 3-D Fluid Dynamic Modeling**  
**Tank Bottoms Profile after WOA Pigging Slurry Transferred to TK-110**

Tank bottoms level rise due to WOA was much less than EOA; as was expected. The incremental volume of tank bottoms added was 1010 BBL bring the total pigging solids accumulation to 11,720 BBL

**ANS 110 Tank (Crude) - Pre Jet M<sup>o</sup>ring**

180ft tank  
Avg Sludge Depth = 3.62ft.



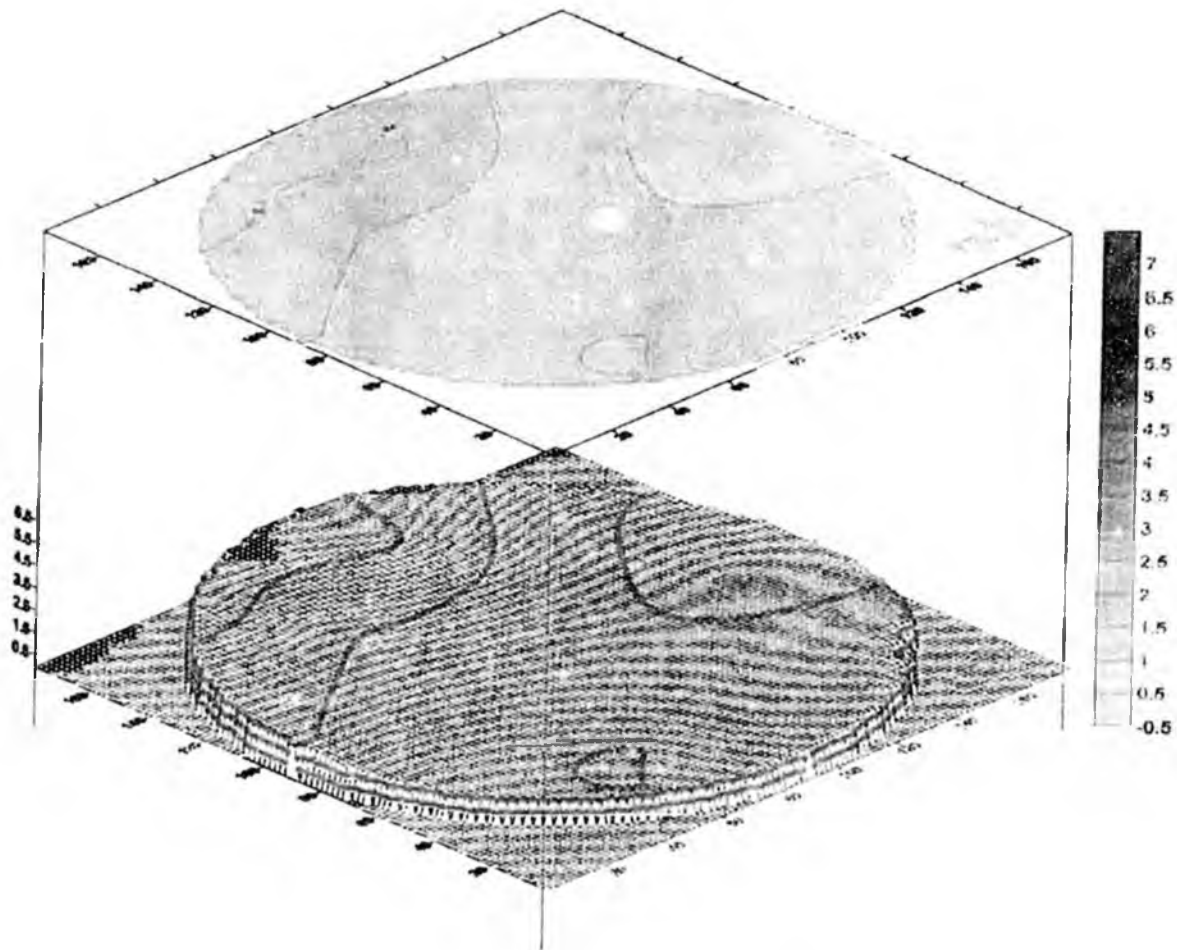
Volume (Cubic Ft): 92340  
Volume (Barrels): 16450

**TK-110 Thermographic / 3-D Fluid Dynamic Modeling**  
**Tank Bottoms Profile after Higher Temperature Jet Mixing in TK-110**

- A series of jet mixing strategies were employed to suspend the waxy tank bottoms in temperatures as low as 40's and as high as 90°F. The jet mixing liberated entrained solids and water and produced sheared wax molecules which dissolved into the crude and were decanted to TAPS.
- A total of 10,620 BBL of waxy tank bottoms were removed or 91% of the tank bottoms introduced via pigging.

**ANS 110 Tank (Crude) - Post Jet Mixing Dec 4/2006**

180ft tank  
Avg Sludge Depth = 1.28ft.



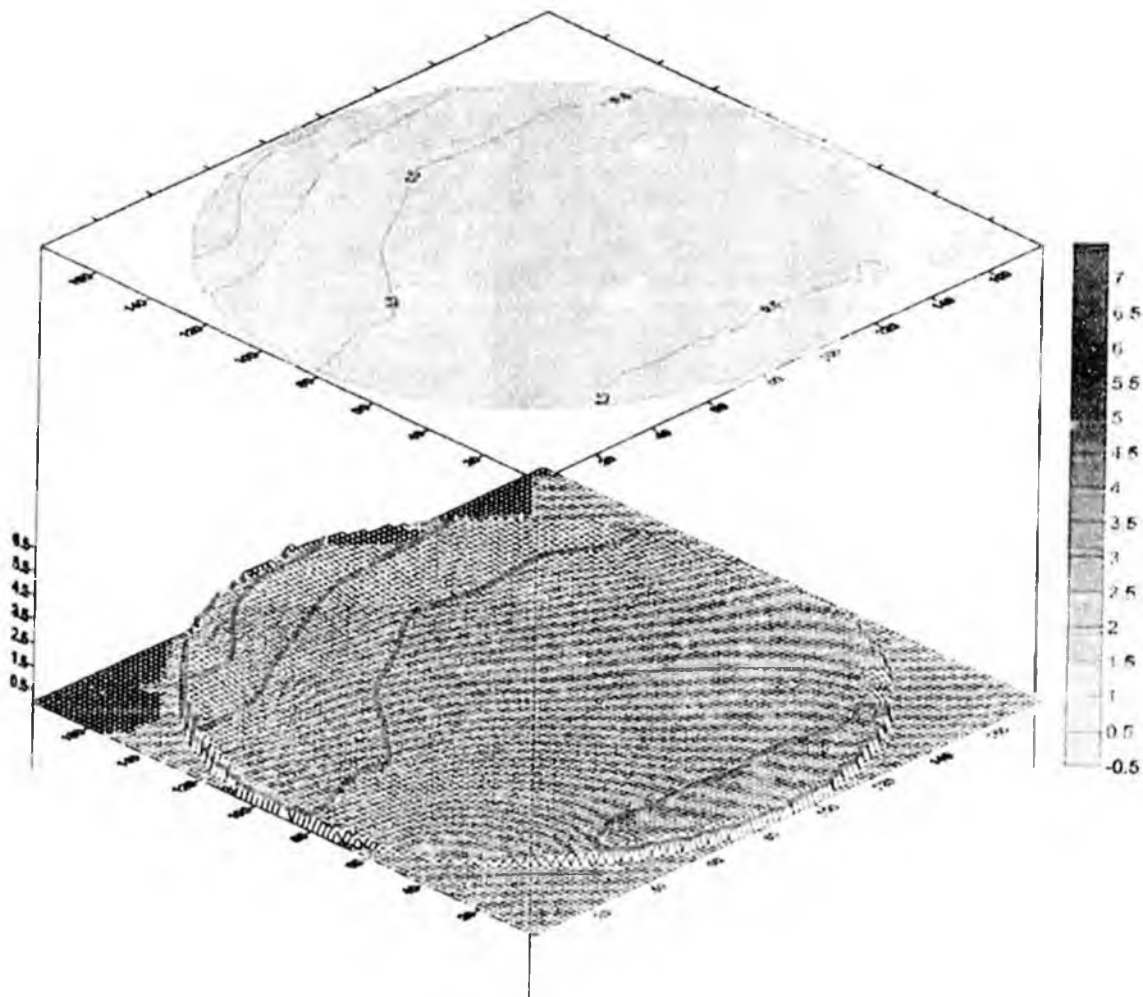
Volume (Cubic Ft): 32720  
Volume (Barrels): 5830

**TK-110 Thermographic / 3-D Fluid Dynamic Modeling**  
**Tank Bottoms Profile after Lower Temperature Jet Mixing in TK-110**

- Additional jet mixing was carried out after the introduction of hot crude (112°F+) which raised the bulk temperature of the jet mix slurry to over 95°F
- A total of 13,160 BBL of waxy tank bottoms have been removed. All of the pigging solids wax and 50% of the hardpan wax in the tank prior to the BPXA project was shown to be sheered and dissolved in the hot crude introduced to TK-110.

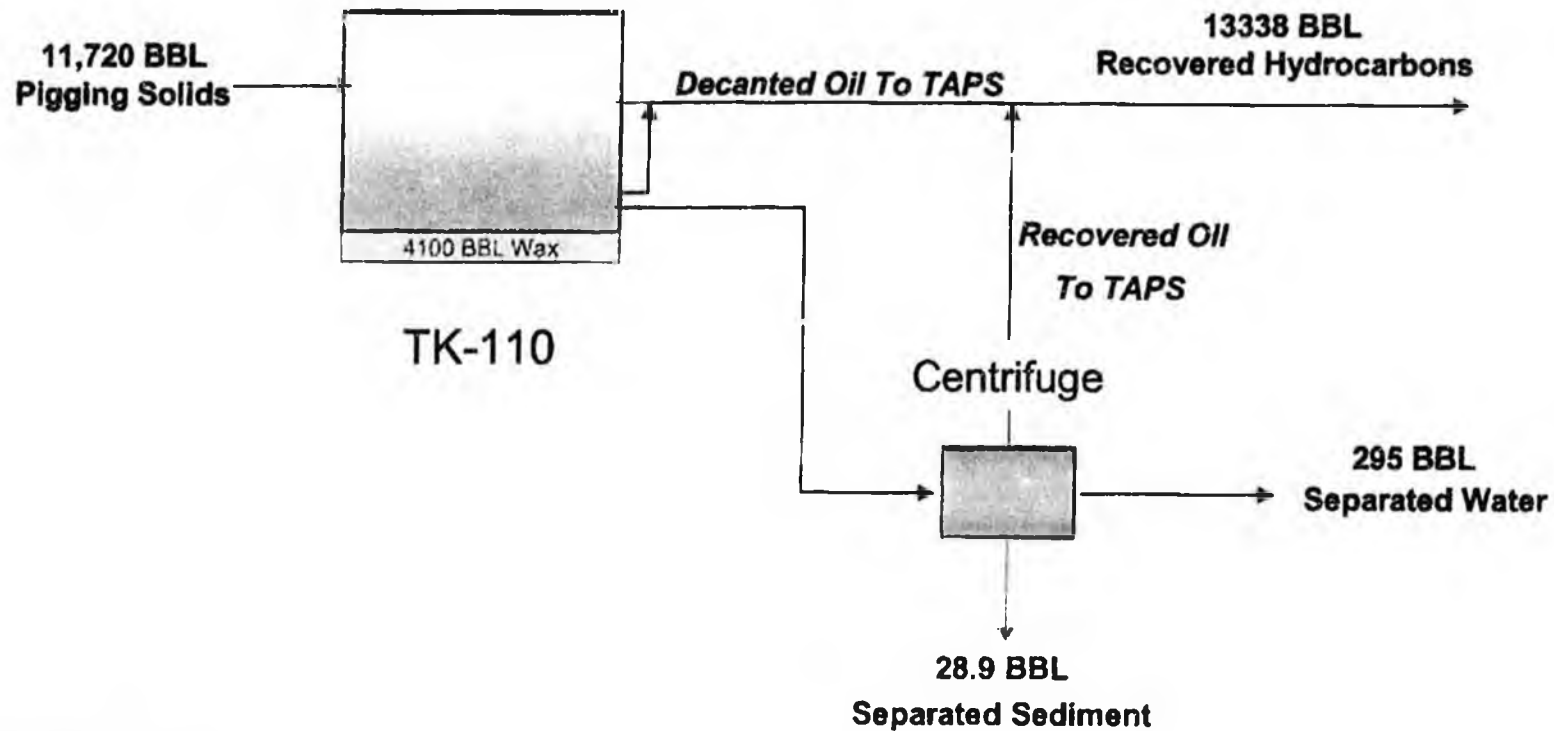
**ANS 110 Tank (Crude) - Post Jet Mixing (12-12-06 4 PM)**

180ft tank  
Avg Sludge Depth = 0.5ft.



Volume (Cubic Ft): 12800  
Volume (Barrels): 2280

# BPXA – Pigging Solids Processing Thermographic Material Balance



## Summary:

- BPX Pigging Solids consisted primarily of wax
- Prior to receipt of pigging solids, TK-110 had about 4100 BBL of wax on bottom
- Upon receipt the pigging solids settled to the bottom as an additional 11,720 BBL of waxy solids
- A tank bottom profile indicated 295 BBL of water and 31.6 BBL of sediment in the waxy bottoms
- Jet mix sheering and hot crude addition enabled all of the pig wax to be dissolved
- Processing skid recovered all of the water in the heavy bottoms and 92% of the sediment

Exhibit

4

bp



Doug Suttles

President

February 15, 2007

BP Exploration (Alaska) Inc.  
PO Box 196012  
900 E. Benson Boulevard  
Anchorage, Alaska 99519-0612

Honorable Members  
Alaska State Legislature  
State Capitol  
Juneau, AK 99801

Dear Ladies and Gentlemen:

A number of questions have been raised about BP's intent to deduct certain costs related to the Prudhoe Bay field shutdown last August. I am writing to confirm our position on this issue and at the same time reiterate BP's commitment to and plans for our business in Alaska.

Direct: 907 564 5422  
Main: 907 561 5111  
Fax: 907 564 5900  
doug.suttles@bp.com

With respect to the deductibility of costs, we can only speak for BP. Taxes are paid on a company wide basis rather than a field specific basis and BP cannot speak for the other Prudhoe Bay owners on tax issues.

BP follows the law when it files its taxes. Accordingly, BP will assume the appropriate deductions & credits for the costs associated with the repair and replacement of the Prudhoe Bay Oil Transit Lines (OTLs). Specifically, BP will deduct appropriate costs associated with repair of the OTLs and will seek authorized credits for capital costs to replace them. Similarly in compliance with the PPT Laws, we will not seek to deduct costs associated with cleaning up the oil spills.

To put this issue into context, I would like to openly share our estimated 2006 production taxes.\* For the final nine months of 2006, the period over which PPT was applicable, we estimate that BP's production taxes will almost triple from \$180 million under the old ELF-based tax to more than \$500 million under PPT. Over the same period, BP's share of the deductions and credits associated with the costs of inspection, business resumption, and replacement of the OTLs will result in a total deduction of around \$11 million in 2006, which we have included in our 2006 production tax estimate.

We believe our approach is appropriate for the following reasons:

- 1) It is important to realize that the OTLs are some 30 years old and were sized for significantly higher production than we will have in the future. The OTLs would have been replaced in the normal course of business, even if the events of last year had not taken place.
- 2) We are in the process of building a new state of the art pipeline system for the future life of Prudhoe Bay. This is not a like-for-like replacement. Rather, we are investing in a brand new system, with pipe diameter sizes very different than the original design to reflect the reduced production from these maturing oilfields. The new system will have new chemical injection systems, upgraded pig launchers/receivers, upgraded leak detection system, and a Fusion Bond Epoxy external coating for longer life. The system will be in operation for decades to come. We believe this investment is in the best interests of the State of Alaska and the North Slope producers.

We appreciate the opportunity yesterday to discuss our Alaska business with the Senate Resources Committee and update them on the commitments we made in August 2006.

BPXA-LEGIS00044

February 15, 2007  
Page 2 of 2

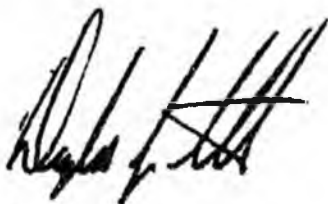
BP remains fully committed to the ongoing integrity of its facilities. As we embark on a vision of our next 50 years in Alaska, we will continue to make significant investment in facility renewal. This is not about replacement. It is about designing and constructing new facilities in a way that underpins the future and ensures the operability of the North Slope for decades to come.

With respect to PPT, last year the Legislature held long and difficult debates that ultimately led to the passage of PPT. The regulations are still being formalized as this legislation has not been in place for very long. We are only just preparing to submit our first tax returns under this new system. As a result, we believe it is premature to consider changes to the structure or intent of the current legislation. We believe it would be prudent for all parties, including producers and the State, to wait until PPT is fully implemented and we have real experience of its operation and impact before making any changes.

I hope I have provided you with the clarity of BP's intentions that many of you have been seeking and the reasoning behind the decisions we have made.

I look forward to working with the legislature as we progress our vision for our business in Alaska, including the commercialization of Alaska Gas, and as we bring our vision of a 50-year future to reality.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Suttles", with a stylized flourish at the end.

Doug Suttles

- Please note that, in disclosing in this letter certain specific tax information and BP's tax positions regarding PPT, BP does not intend to waive the confidentiality of any of its tax materials and information under applicable law (including AS 43.05.230), other than the particular information disclosed.

**Debra Higgins**

---

**From:** Cody Rice  
**Sent:** Tuesday, May 22, 2007 10:54 AM  
**To:** Rep. Scott Kawasaki; Rep. Bob Roes; Rep. Peggy Wilson; Rep. Craig Johnson; Rep. Carl Gatto;  
Rep. Paul Seaton; Rep. Vic Kohring; Rep. Bryce Edgmon; Rep. David Guttenberg  
**Cc:** Graham Siebe; Crystal Novotney; Debra Higgins; Louie Flora; Adam Berg; Daniel Consenstein  
**Subject:** (H) RES Interim Meetings

Rep. Gatto would like to have two committee meetings in Anchorage next month on the topic of TAPS tariffs and oil pipeline integrity and safety.

We have a choice of four days: June 9th, 10th, 16th, and 17th. Each is a weekend to allow for easier travel and public participation. Please rank your choices from 1-4 with 1 being the best choice. If the day will not work for any reason please let me know ASAP.

Thanks for your help and participation.

Cody

Cody Rice  
Staff to Rep. Carl Gatto  
Telephone Number: 907-376-3725  
Fax Number: 907-376-4768  
<http://www.akrepublicans.org/gatto/index.php>

# **Brena, Bell & Clarkson, P.C.**

**Presentation  
to  
House Resources Committee**

**Overview of TAPS Rate Litigation and FERC  
Judge Cintron's May 17, 2007, Initial Decision**

**June 7, 2007**

# Overview

- **Alaska's Oil and Gas Resources are Transported Through Pipelines with No Competition.**
- **Economic Regulation of These Noncompetitive Pipelines Must Meet Two Basic Goals:**
  - (1) Fair access, and
  - (2) Just and reasonable rates.
- **Meeting These Goals will Optimize:**
  - (1) The development of our oil and gas resources,
  - (2) Royalty and severance taxes, and
  - (3) Value-added manufacturing and jobs in Alaska.

# The TAPS Settlement

- **TAPS Settlement:** In 1985, the TAPS Carriers and the State of Alaska settled prior rate issues and agreed that the State would not protest future rates as unjust and unreasonable so long as those rate filings were at or below the ceiling rates established under the TAPS Settlement Method ("TSM").
- **Request to Review TAPS Settlement Under "Public Interest" Standard:** The TAPS Carriers and the State asked the FERC and the RCA to review the TAPS Settlement under the "public interest" standard and not to review it under the "just and reasonable" rate standard.
- **Representation that Shippers Could Protest Future TSM Rates:** The TAPS Carriers and the State represented to the FERC and the RCA that if their TAPS Settlement was approved, any third-party shipper could protest future TSM ceiling rates as unjust and unreasonable and have the FERC or the RCA set just and reasonable rates.
- **Establishing Just and Reasonable Rates Does Not Violate the TAPS Settlement:** No party has requested the premature termination of the TAPS Settlement. The rate litigation before the FERC and the RCA is consistent with, and does not contradict, any term of the TAPS Settlement. The TAPS Carriers and the State continue to receive every benefit under the TAPS Settlement. The State still enjoys rates at or less than the TSM ceiling rates. The TAPS Carriers still enjoy the resolution of all prior rate issues and not having the State protest their TSM rates as unjust and unreasonable.

# Rate Methods for TAPS

- **TAPS Settlement Method (“TSM”)**
  - Settlement method for ceiling rates only.
  - Rejected by the RCA, the Superior Court of Alaska, and Judge Cintron for establishing just and reasonable rates.
- **Stand Alone Cost (“SAC”) Method**
  - Based on hypothetical costs of new pipeline.
  - Rejected by Judge Cintron for establishing just and reasonable rates.
- **Original Cost Rate Methods**
  - Depreciated Original Cost (“DOC”) Method. RCA applied to TAPS for establishing just and reasonable rates in RCA Order P-97-4(151).
  - Trended Original Cost (“TOC”) Method. FERC adopted for all oil pipelines, with some modification, through FERC Opinion 154-B. Judge Cintron applied to TAPS in Initial Decision.

# RCA Rate Proceedings

- **Major Claims:**

- In 1937, Tesoro claimed the state rates were unjust and unreasonable and asked the RCA to establish rates based on the DOC method.
- The TAPS Carriers and the State of Alaska defended the state rates and asked the RCA to continue to charge TSM rates.

- **RCA Decision:**

- In Order P-97-4(151), the RCA rejected the use of the TSM and established rates based on the DOC method. The state rate today is \$1.96 for all carriers.

- **Procedural Status of RCA Decision:**

- In January 2006, Superior Court Judge Suddock “affirmed the decision of the RCA in all respects.”
- The TAPS Carriers appealed to the Supreme Court of Alaska. The case has been argued before the Supreme Court and is awaiting decision.

# FERC Rate Proceedings

- **Major Claims:**

- In 2005, Anadarko/Tesoro claimed the federal rates ranging from \$3.78 to \$4.41 (2006) were unjust and unreasonable and asked the FERC to establish a \$2.04 (2006) federal rate based on Opinion 154-B.
- The State of Alaska claimed the federal rates were discriminatory because they were higher than the state rate and asked the FERC to lower the federal rates.
- The TAPS Carriers claimed the state rate was noncompensatory and a burden on interstate commerce and asked the FERC to raise the state rate.

- **Judge Cintron's Initial Decision:**

- Established a \$2.04 (2006) federal rate based on Opinion 154-B.
- Dismissed the State of Alaska's claims as moot.
- Dismissed the TAPS Carriers' claims as moot.

- **Procedural Status of Initial Decision:**

- Appeal to FERC
- Appeal to the D.C. Circuit

# Summary of Initial Decision

- **TSM:**
  - The TAPS Carriers failed to provide cost support for the TSM rate elements, so the TSM rates could not be found to be just and reasonable.
- **Opinion 154-B:**
  - Opinion 154-B must be used to establish just and reasonable rates;
  - Opinion 154-B does not permit the Carriers to double recover their investment, deferred earnings, AFUDC, or ADIT;
  - The Carriers are not entitled to a starting rate base write up;
  - Return must be based on a representative proxy group without a risk premium; and
  - Anadarko/Tesoro's Opinion 154-B calculation was adopted.
- **DR&R:**
  - Collections and earnings must be accounted for; and
  - Overcollections may be refunded.
- **Uniform Rate**
- **State of Alaska's Discrimination Claims:**
  - Dismissed as moot
- **TAPS Carriers' Section 13(4) Claims:**
  - Dismissed as moot.
- **Remedies:**
  - Refunds of rate increases for 2005 and 2006.
  - Cost-based Opinion 154-B rates going forward.

## **Just and Reasonable Rates**

- **Just and reasonable rates are generally rates based upon the costs of providing service.**
- **Just and reasonable rates permit the Carrier an opportunity to recover:**
  - (1) Operating costs,
  - (2) Investment, and
  - (3) A reasonable return on remaining unrecovered investment.

# TSM Rates Are Not Just and Reasonable

- **EXCESSIVE COLLECTIONS:** From 1977 through 2004, the TSM has resulted in \$18 billion in overcollections under the DOC method. During this period, the TAPS Carriers have invested \$10 billion in capital to build TAPS and \$15 billion to operate TAPS, but have collected \$60 billion in rates.
- **THE TSM IS FATALLY FLAWED:**
  - Allowance Per Barrel
  - Rates Are Based on Subjective Projections
  - Depreciation Based on the Wrong Economic Life
  - True-up of Total Revenue
  - Faulty Jurisdictional Separations
- **IMPACT TO STATE:** The TSM has cost the State of Alaska \$4.5 billion in royalty and severance taxes (\$18 billion \* 25 percent) plus earnings.

# TSM Rates Filed by TAPS Carriers

<u>Carrier</u>	<u>Rates</u>			
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
BP Pipelines (Alaska) Inc.	\$3.01	\$3.86	\$4.08	\$5.10
ConocoPhillips Transportation Alaska, Inc.	\$3.09	\$3.52	\$3.78	\$5.29
ExxonMobil Pipeline Company	\$3.07	\$3.60	\$3.93	\$4.95
Koch Alaska Pipeline Company, LLC	N/A	\$3.97	\$4.41	\$4.75
Unocal Pipeline Company	\$3.00	\$3.59	\$3.92	\$4.63

**Comparison of  
Anadarko/Tesoro's 154-B and TAPS Carriers' 154-B  
Total 2006 Revenue Requirements and Rates  
(\$Millions)**

<b>Line No.</b>	<b>Description</b>	<b>A/T 154-B</b>	<b>TAPS Carriers' 154-B</b>
1	Operating Expenses	\$559.65	\$559.65
2	Depreciation Expense	\$13.48	\$335.43
3	Amortization of Deferred Earnings	\$7.13	\$223.84
4	Amortization of AFUDC	\$0.86	\$11.63
5	DR&R Allowance	\$0.00	\$0.00
6	Return Allowance		
7	Return on Equity	\$30.58	\$281.62
8	Interest	<u>\$13.77</u>	<u>\$9.59</u>
9	Total Return Allowance	\$44.34	\$291.21
10	Income Tax Allowance	\$22.13	\$329.04
11	Non-Transportation Revenues	(\$0.27)	<u>(\$0.38)</u>
12	Total Revenue Requirement	<u>\$647.32</u>	<u>\$1,751.18</u>
13	Composite System Barrels (Millions)	326.795	326.795
14	Composite Rate (\$/Bbl)	\$1.98	\$5.36
15	Valdez Interstate Rate (\$/Bbl)	\$2.04	\$5.53

**Differences Between  
TAPS Carriers' 2006 154-B Proxy Revenue Requirement and Rate and  
Anadarko/Tesoro's 154-B Revenue Requirement and Rate  
(\$Millions)**

	<u>Revised Revenues</u>	<u>Revised Rate</u>
<b>TAPS Carriers' 154-B</b>	<b>\$1,751.18</b>	<b>\$5.36</b>
<b>Less Revenue from Deferred Earnings</b>	<b>(\$580.60)</b>	<b>(\$1.78)</b>
<b>Less Revenue from Starting Rate Base</b>	<b>(\$95.02)</b>	<b>(\$0.29)</b>
<b>Less Revenue from Accelerated Portion of Depreciation and Other</b>	<b><u>(\$428.23)</u></b>	<b><u>(\$1.31)</u></b>
<b>Anadarko/Tesoro's 154-B</b>	<b>\$647.32</b>	<b>\$1.98</b>

## **Dismantlement, Removal & Restoration ("DR&R")**

- DR&R is the cost of taking a pipeline out of service at the end of its economic life.
- A pipeline carrier is entitled to collect DR&R from its shippers. DR&R should be a zero-sum game for the carrier.
- The TAPS Carriers have collected \$1.5 billion for DR&R from 1977 to date. They have had the unrestricted use of these shipper funds for decades and have actually earned approximately \$15.7 billion on those funds through 2005. The TAPS Carriers have said they only need \$2.6 billion (2005) for DR&R.