U.S. Department of the Interior
Bureau of Land Management

Environmental Assessment
DOI-BLM-MT-C030-2016-0052-EA
January 2016

Slawson Exploration Company Applications for Permit to Drill

Pad 1: Blade Federal 2-18H, Blade Federal 1 SLH, Blade Federal 9 SLTF2H, Walleye Federal 5-12-11TFH, Walleye Federal 10-12-11TF2H

Pad 2: Pike Federal 4-3-2TFH, Pike Federal 5-3-2TFH, Pike Federal 8-3-2TF2H

Pad 3: Pike Federal 3-3-2H, Pike Federal 6-3-2TFH, Pike Federal 9-3-2TF2H

Pad 4: Pike Federal 7-3-2TFH, Pike Federal 10-3-2TF2H

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CHAPTER 1
INTRODUCTION

INTRODUCTION

This Environmental Assessment (EA) has been prepared by the Bureau of Land Management North Dakota Field Office to analyze Slawson Exploration Company (Slawson) Applications for Permit to Drill (APDs), including well pads, access roads, and associated infrastructures. The well locations will be constructed on privately owned (Fee) lands underlain by Fee minerals within Mountrail County, North Dakota (Appendix 1). The well bores would penetrate Fee, Federal, and Indian minerals through horizontal drilling techniques. The well bores would penetrate the leases indicated below. The well information is as follows:

Well Identification	Legal Location	Lease Number
Blade Federal 2-18H	T152N R92W Section 7, Lot 11	NDM104606
Blade Federal 1 SLH	Same as above	
Blade Federal 9 SLTF2H	Same as above	
Walleye Federal 5-12-11TFH	T152N R92W Section 7, Lot 11	NDM99119 (Indian)
Walleye Federal 10-12-11TF2H	Same as above	
Pike Federal 4-3-2TFH	T151N R92W Section 3 SWNW	NDM98759
Pike Federal 5-3-2TFH	Same as above	
Pike Federal 8-3-2TF2H	Same as above	
Pike Federal 3-3-2H	T151N R92W Section 3, NWSW	NDM100225
Pike Federal 6-3-2TFH	Same as above	
Pike Federal 9-3-2TF2H	Same as above	
Pike Federal 7-3-2TFH	T151N R92W Section 3 SWSW	NDM100225
Pike Federal 10-3-2TF2H		

The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts resulted from the analyzed actions. The Bureau of Land Management has prepared the Environmental Analysis to guide the decision to be made whether the Applications for Permit to Drill for these oil and gas wells should be approved or denied.

BACKGROUND

The 13 proposed oil and gas wells would be drilled from four separate well pads and drilled into the Federal and Indian leases described above. The description of the operator proposed action and analysis contained in the EA depicts the proposed well and the environmental effects available to the BLM at the time of this analysis.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is for BLM to allow the opportunity for Slawson, holder of the affected federal oil and gas lease, to explore and develop it. BLM's need to respond to the proposal is expressed in regulations and policy. The Mineral Leasing Act of 1920 (MLA) authorizes and directs leasing of public lands for development of natural gas and other minerals (Sec. 13. 30 U.S.C. § 181 et seq.) The Federal Land and Policy Management Act of 1976 (FLPMA) mandates that BLM develop multiple sustainable uses of public lands in concert with land use planning and environmental protection (Sec. 302. 43 U.S.C. 1732). The BLM decision to be made is whether or not to approve the APDs. However, the BLM has little jurisdiction over surface impacts on private lands.

CONFORMANCE WITH LAND USE PLAN

This proposed action is subject to the decisions approved in the North Dakota Resource Management Plan, which was approved on April 22, 1988 as amended September 21, 2016. The plan has been reviewed to ensure that the proposed action is in conformance with the land use plan, terms, and conditions, as required by 43 CFR 1610.5. For reference, see page 9 of the Final RMP/EIS, Oil and Gas Lease Stipulations and Leasing Restrictions. See also, page 10 of the RMP/EIS Desk Document, Oil and Gas Plan Decisions.

For the Indian lease, the Proposed Action is in conformance with and this EA incorporates by reference the BIA Regulations at 25 CFR Part 211.4 and 225.4 to the Secretary's regulations. The BIA, BLM and ONNR, as the Secretary of the interiors representatives, have an obligation to act as a trustee for Indian tribes and allottees for Indian mineral resources.

SCOPING AND PUBLIC INVOLVMENT AND ISSUES

The operator has provided certification that they have a surface owner's agreement, which was received by the BLM on 3/24/14 for the Walleye APDs, 5/7/14 for the Blade APDs, 5/19/15, 5/21/15, and 5/26/15 for the Pike wells. No issues were identified by the surface owners.

NEPA regulations (40 CFR §1500-1508) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to support public and BLM-internal participation in order to identify issues, concerns and potential impacts that require detailed analysis. APDs were posted in the front office of the North Dakota Field Office for 30 days. Information was also posted on the Montana/Dakotas BLM webpage. The EA analyses the proposed actions and discloses potential impacts based upon existing data.

CHAPTER 2
PROPOSED ACTION AND ALTERNATIVES

DESCRIPTION OF PROPOSED ACTION

Well Site Construction
Pad 1:
Slawson proposes to drill the following five oil wells: Blade Federal 1SLH, Blade Federal MWP 2-18H, Blade Federal 9 SLTF2H, Walleye Federal MWP 10-12-11TF2H, Walleye Federal MWP 5-12-11TFH from an existing single well pad in Mountrail County, ND (see Table 1 below and Appendix 1). Total surface disturbance from the construction and then expansion of the well pad is approximately 8.6 acres. The access road is approximately 230 feet in length, with a 14-18 foot running surface with a 16 foot sub-grade. A BLM right-of-way (ROW) would not be required. Surface and subsoil materials in the immediate project area would be used for construction. Scoria would be used to surface the well pad and access road, and would be acquired off site from a privately owned pit. After the well is drilled, it would be tested and if commercial quantities of oil or gas are discovered, the well would be completed for production and production facilities would be installed on the well pad. Slawson well Walleye Federal 2-12-11H was previously analyzed in an EA, and the APD was approved on 4-16-14. The Walleye Federal 2-12-11H was drilled on 7/27/14.

Table 1: Surface Hole and Bottom Location

Well Name and Number	Surface Location	Bottom Hole Location	Surface Owner	Well Pad Dimensions	Existing Access Road Length & Width
Blade Federal 2-18H Blade Federal 1 SLH Blade Federal 9 SLTF2H, Walleye Federal 5-12-11TFH, Walleye Federal 10-12-11TF2H	T152N R92W Section 7, Lot 11 Mountrail County	T. 152N R93W Sec. 11, SWSW Mountrail County	Private	750’ x 450’ **8.6** acres	230’x18’

Pad 2:
Slawson proposes to drill the following oil wells; Pike Federal 4-3-2TFH, Pike Federal 5-3-2TFH, Pike Federal 8-3-2TF2H from a new single well pad in Mountrail County, ND (see Table 2 and Appendix 1). The proposed well pad will be approximately 725' x 500'. The cuts range up to 14.5′ at the elevation across the pad, and the fills range up to 10.6′. All topsoil will be removed from the area needed for well pad construction and saved for reclamation. The total acres of surface disturbance for the well site construction shall amount to about 9.4 acres. The new access road is approximately 2,234 feet in length, and has a 14-18 foot running surface with a 16 foot sub-grade. A BLM right-of-way (ROW) would not be required. Surface and subsoil materials in the immediate project area would be used for construction. Scoria would be used to surface the well pad and access road, and would be acquired off site from a private source. After the wells are drilled, they would be tested and if commercial quantities of oil or gas are discovered, the wells would be completed for production and production facilities would be installed on the pad. The Pike 2-3-2H APD was previously analyzed and approved on 11/14/2012. The well pad and access road have not yet been constructed.

Table 2: Surface Hole and Bottom Location

Well Name and Number	Surface Location	Bottom Hole Location	Surface Owner	Well Pad Dimensions	Access Road Length & Width
Pike Federal 4-3-2TFH Pike Federal 5-3-2TFH Pike Federal 8-3-2TF2H	T.151N R92W Sec. 3 SWNW Mountrail County	T. 151N R92W Sec. 2 SENE Mountrail County	Private	725'x 500' **9.4** acres	2234'x 25' 1.1

Pad 3:
Slawson proposes to drill the following oil wells; Pike Federal 3-3-2H, Pike Federal 6-3-2TFH, Pike Federal 9-3-2TF2H by expanding an existing single well pad in Mountrail County, ND (see Table 3 and Appendix 1). The well pad is approximately 725'x500' and surfaced with scoria. The cuts range up to 19.5′ at the elevation across the pad, and the fills range up to 10.8′. All topsoil will be removed from the area needed for well pad construction and saved for reclamation. The total acreage of surface disturbance for the well site construction is about 10.3 acres. The access road is approximately 1,404 feet in length, and has a 14-18 foot running surface with a 16 foot sub-grade. A BLM right-of-way (ROW) would not be required. Surface and subsoil materials in the immediate project area would be used for construction. Scoria would be used to surface the well pad and access road, and would be acquired off site from a private source. After the wells are drilled, they would be tested and if commercial quantities of oil or gas are discovered, the wells would be completed for production and production facilities would be installed on the pad. The pad location has already been constructed for a fee well.

Table 3: Surface Hole and Bottom Location

Well Name and Number	Surface Location	Bottom Hole Location	Surface Owner	Well Pad Dimensions	Existing Access Road Length & Width
Pike Federal 3-3-2H Pike Federal 6-3-2TFH Pike Federal 9-3-2TF2H	T151N R92W Section 3, NWSW Mountrail County	T. 151N R91W Sec. 2 NESE	Private	725' x 500' **10.3** acres	1404'x25'

Pad 4:

Slawson proposes to drill the following oil wells; Pike Federal 7-3-2TFH, Pike Federal 10-3-2TF2H from a single well pad in Mountrail County, ND (Appendix A). The existing well pad will be expanded to accommodate the additional wells. Portions of the oil well surface and subsoil materials in the immediate project area would be used for construction of the well pad. Scrapers, bulldozers, road blades and other heavy equipment would be used to remove vegetation and topsoil then stockpile for interim or final reclamation. A level working surface would be constructed by cutting subsoil from back slopes and pushing it over to fill low areas. Surface disturbance from the construction of the entire well pad and stockpiles is approximately 9.1 acres total. The largest cut slope is approximately 11.0' and the largest fill slope is approximately .9'. The existing access road is approximately 339' in length. No new surface disturbance for the access road is anticipated. The Pike 1-3-2H is the existing well at this location. The APD for this well was approved February 2010 and drilled 6/16/2010.

Table 4: Surface Hole and Bottom Location

Well Name and Number	Surface Location	Bottom Hole Location	Surface Owner	Well Pad Dimensions	Existing Access Road Length & Width
Pike Federal 7-3-2TFH, Pike Federal 10-3-2TF2H	T151N R92W Section 3 SWSW Mountrail County	T. 151N R92W Sec. 2 SESE	Private	525' x 750' **9.1 acres**	339'x25'

Well Site Drilling

The drilling operations would start upon receipt of an approved application for permit to drill, and would take approximately 45 days per well after spudding, followed by additional time for

well completion and installation of production facilities for each well. The proposed wells would be horizontally drilled with a closed loop system to the Bakken Formation.

Well Identification	Approximate Measured Depth (ft)	Approximate Surface Casing (9 5/8") set
Blade Federal 1SLH	20,942	1,913
Blade Federal MWP 2-18H	15,531	1,763
Blade Federal 9 SLTF2H	21,118	1,913
Walleye Federal MWP 10-12-11TF2H	20,055	1,913
Walleye Federal MWP 5-12-11TFH	20,011	1,913
Pike Federal 4-3-2TFH	20,120	1,802
Pike Federal 5-3-2TFH	20,178	1,802
Pike Federal 8-3-2TF2H	20,352	1,782
Pike Federal 6-3-2-TFH	20,120	1,789
Pike Federal 3-3-2H	19,874	1,719
Pike Federal 9-3-2TF2H	20,196	1,764
Pike Federal 7-3-2TFH	19,978	1,788
Pike Federal 10-3-2TF2H	20,187	1,762

The surface casing shall be set and cemented back to the surface. The well would then be drilled below the casing. The operator does not anticipate Hydrogen Sulfide gas to be encountered but has submitted an H_2S Contingency Plan for the well. An appropriately sized Blowout Preventer (BOP) would be used to control the well and prevent an accidental release of hydrocarbons or salt water into the environment.

Fresh water based mud system would be used while drilling down to surface casing setting depth, and an invert mud system (oil based) would be used for drilling the remaining vertical section and the horizontal section of the well would use a brine or invert drilling fluid. The well would be fracture stimulated and completed for production if economically recoverable quantities of oil are found.

At the drilling location, drill cuttings would be stored in three sided tanks on location prior to being transported offsite to an approved disposal facility. Disposal of all solids and liquids (drilling fluids/cuttings, produced water, trash, sewage and chemicals) will meet all state, federal and county requirements. Produced fluids would be placed in test tanks on location. A berm would be provided around the test tanks to serve as secondary containment.

The wells would be drilled and completed in full compliance with all applicable laws, regulation (43 CFR 3100), *Onshore Oil and Gas Orders*, the Application for Permit to Drill (APD), and any Conditions of Approval.

Well Site Completion

Bakken wells typically undergo fracture stimulation as part of the well completion process. Fracture stimulation (i.e., hydraulic fracturing or "fracing") is a process used to maximize the

extraction of underground resources by allowing oil or natural gas to move more freely from the rock pores to production wells that brings the oil or gas to the surface. The hydraulically created fracture acts as a conduit in the rock formation, allowing oil or gas to flow more freely through the fracture system, and to the wellbore where the oil or gas is produced to the surface.

To create or enlarge fractures, fluid comprised typically of water and additives is pumped into the productive formation at a gradually increasing rate and pressure. Hydraulic fracturing fluid is approximately 98 percent water and propping agents (proppant), such as sands with the remainder being chemical additives. Chemicals used in stimulation fluids include acids, friction reducers, surfactants, potassium chloride (KCl), gelling agents, scale inhibitors, corrosion inhibitors, antibacterial agents, and pH adjusting agents and typically comprise less than 2% of the total fluid. When the pressure exceeds the rock strength, the fluids create or enlarge fractures that can extend several hundred feet away from the well. As the fractures are created, a propping agent (usually sand) is pumped into the fractures to keep them from closing when the pressure is released. After fracturing is completed, the majority of the injected fracturing fluids returns to the wellbore and is reused or disposed of at an approved disposal facility.

A typical fracture stimulation technique involves 20-30 stages which partition the wellbore into segments which are each separately fracture stimulated. This allows for more efficient use of frac fluid and proppant and a more evenly distributed treatment of the full length of the wellbore. This multi-stage hydraulic fracturing has allowed development of the Bakken formation that was previously uneconomic due to low permeability.

Well Site Production

Production facilities required to operate each oil well include a pumping unit, oil and saltwater tanks, a flare stack and a heater treater, recycle pumps, metering equipment, small sheds or enclosures, communications tower and other miscellaneous equipment would also be installed on the leveled working area of the well pad. Production facilities would be spaced according to minimum safe operating distances. All surface facilities would be painted a flat earth-tone color except facilities requiring high-visibility colors for safety. A dike would be constructed completely around the production facilities designed to hold fluids. These dikes would be constructed of compacted subsoil, are impervious, and hold 100% capacity of the largest vessel plus one day production volume.

During the production phase, the operator would reduce the pad size to accommodate only the area that is needed for production. All slopes would be re-contoured to gentler grades, stabilized; topsoil spread, grass seeded and drainage would be established. Upon well abandonment, the operator would reclaim the well pad and access road as directed by the surface owner or by the BLM AO if reclamation is inadequate.

NO ACTION ALTERNATIVE

Under the No Action Alternative, the proposed wells and associated facilities would not be constructed, drilled and installed, and the APDs would not be approved. The No Action Alternative would not authorize testing and completion of the proposed wells.

CHAPTER 3
AFFECTED ENVIRONMENT

While siting and construction of the private well pad and infrastructure is necessary for drilling the Federal well, the decision of where and how to construct and operate the well pad and infrastructure is beyond the BLM's jurisdiction when the well pad will be located on Fee surface underlain by Fee minerals. Because the surface location of this well is located on private land and off of the Federal and Indian leases, the requirements for protection of surface resources and mitigation of environmental impacts resulting from locating and constructing the well site would be primarily subject to state or local regulation.

Mandatory Item	Potentially Impacted	No Impact	Not Present On Site
Threatened and Endangered Species			X
Floodplains			X
Wilderness Values			X
ACECs			X
Water Resources		X	
Air Quality	X		
Cultural or Historical Values			X
Prime or Unique Farmlands			X
Wild & Scenic Rivers			X
Wetland/Riparian			X
Native American Religious Concerns			X
Wastes, Hazardous or Solids			X
Invasive, Nonnative Species	X		
Environmental Justice		X	

The following non-critical resources would not be impacted by this proposed action; therefore, they would not be analyzed in detail by this Environmental Assessment: Fire, Forestry, Geology, Lands/Realty, Recreation, Wetlands, Livestock Grazing, or Ecologically Critical Areas.

Air Quality: The proposed well site and access road are located in a Class II air quality rating area, which is an area that allows moderate degradation above "baseline," including most of the United States. The air will receive some pollution from the oil and gas activities in the oil field within a few miles radius of the well, including very little hydrogen sulfide gas, some sulfur dioxide gas from venting and flaring activities, and dust particulates from surface-disturbing activities. The nearest Class I air shed is the northwestern portion of the South Unit of Theodore Roosevelt National Park, which is approximately 70 miles south of the project area. The dominate wind direction in this area is from the northwest.

Cultural Resources: Four Class III cultural resources inventories (BLM # 13-MT030-32, 15-MT030-289, 15-MT030-290, 15-MT030-291) were conducted, and one updated Class I records search (15-MT030-285) was submitted to the BLM, with no significant cultural resource sites were located in the project area or area of potential effect (APE).

Hydrology: The proposed well sites and access roads are located within the Lake Sakakawea watershed. The project areas are not located next to any mapped perennial or intermittent streams. However, unmapped streams and drainages may be present. All pads are located within 1 mile of Lake Sakakawea.

Wildlife: The majority of Mountrail County lies within the Missouri Slope or Missouri Coteau Region of North Dakota and has been largely influenced by glaciation. This heavily glaciated region contains a considerable variety of glacial land forms mostly characterized by knob-and kettle topography, and innumerable shallow basin wetlands occur throughout. This region is generally represented by western mixed grass prairie and is typically grazed if it has not been converted by cultivation. Prior agricultural conversion areas generally result in cultivation for wheat. In general, wildlife species that may be found utilizing the project area include White-tailed deer, limited pronghorn & mule deer, sharp-tailed grouse and numerous migratory birds including – Western Meadowlark, Lark Bunting, Grasshopper Sparrow, Chestnut-collared Longspur, Golden Eagle, Rough legged Hawk and Swainson's Hawk. The project area does lie within the migratory path of the Endangered Whooping Crane. Mountrail County also contains habitat and harbors the Dakota Skipper butterfly on high quality native prairie.

CHAPTER 4
ENVIRONMENTAL EFFECTS

PROPOSED ACTION DIRECT AND INDIRECT EFFECTS

Air Quality: Ambient Air Quality Standards (AAQS) may be exceeded for a short time during the pad construction, drilling, and completion phases. This would take approximately 45 days per well. Hydrogen sulfide gas (H_2S) may be encountered in the drilling and production phase. The burning or flaring of H_2S results in the release of sulfur dioxide (SO2). If H_2S or SO_2 were released into the atmosphere AAQS may be exceeded for a short time. There may be a period of increased dust during the pad and road construction phase.

Impacts from $S0_2$ and H_2S are addressed in the Williston Basin Regional Air Quality Study. This study shows that ambient air quality and PSD Class II air quality are relatively good in the Williston Basin. An operator has the option to flare produced gas for a 30-day period. After that period, the well must be connected to a gas line or the operator must request permanent flaring. The requirement that all produced gas be either captured or flared should mitigate the impacts to air quality due to production operations or well testing. This flaring could be used to mitigate or lessen any impacts that may temporarily exceed local ambient air quality.

Cultural: Four Class III cultural resources inventories, BLM # 13-MT030-32 (Pad 1), 15-MT030-289 (Pad 2), 15-MT030-290 (Pad 3), 15-MT030-291 (Pad 4) were conducted; and one updated Class I records search designated BLM # 15-MT030-285 (Blade and Walleye Federal, Pad 1) was submitted to the BLM. No significant cultural resource sites were located in the project area or APE. A copy of each Class III Cultural Resources Inventory, with a formal letter detailing each report's findings, was sent to the Mandan, Hidatsa, and Arikara Nation (MHAN) Tribal Historic Preservation Officer (THPO). Report 13-MT030-32 with cover letter was sent to the MHAN THPO on August 9, 2013, report 15-MT030-289 and 15-MT030-290 with cover

letters were sent to the MHAN THPO on October 19, 2015, and report 15-MT030-291 with cover letter was sent to the MHAN THPO on December 4, 2015. The updated Class I records review submitted to the BLM for the Pad 1 location (15-MT030-285) revealed no cultural resources discovered since the 2013 survey. To this date the BLM had received no comments or concerns from the MHAN THPO concerning the four pad locations or any of the cultural resources survey reports. The BLM gives a finding of "No Historic Properties Affected" if the proposed project proceeds as currently planned. If any cultural resources are uncovered during project construction then all work must stop immediately, and the BLM archaeologist must be contacted.

Hydrology: Using a fresh water mud system and cementing the surface casing string from 2,000' back to the surface would protect shallow aquifers. Deeper aquifers and potentially productive hydrocarbon zones would be protected through the use of production casing, and cementing. The producing fractured zone depth is 9,000 to 12,000 feet in depth, well below the typical depth of usable ground water. Well bore construction isolates the Dakota and shallower formations with surface casing set below the base of the Dakota and cemented to surface. Production casing is set from the surface to the producing formation and is typically cemented to 4,000 to 5,000 feet above the producing formation. These factors combine to protect usable ground water from the fracking process. Approximately 20 to 30 stimulation stages (every 300 to 500 feet) was needed for a typical horizontal well bore to fracture stimulate the formation. Each stage requires approximately 1,400 barrels of fluid (an average of about 36,000 barrels per well). Stimulation fluid was disposed of at an approved disposal facility or recycled for reuse or a combination of both.

Surface soils were susceptible to wind and water erosion during road and well pad construction until placement of scoria or gravel. Surface soils would also be susceptible to wind and water erosion in recontoured areas until vegetation is re-established. Erosion from water can be reduced by constructing matting, straw booms/wattles, and berms in the appropriate locations. Erosion rates will return to natural levels once vegetation is reestablished providing living and dead vegetation to protect the soil surface from wind and water. By installing runoff preventive measures and the presence of sediment filtering vegetation between the construction sites and live waters, effects to surface waters was nearly unnoticeable.

Wildlife: Approximately 38 acres of land would be altered to construct the well four different well pads and access routes to the proposed project sites. Construction, drilling, production and/or vehicle traffic would result in permanently or temporary displacement of some wildlife species including migratory bird species. Mortality of some relatively small, immobile species may occur as a result of construction. On a landscape basis, new roads and well pads would contribute to additional habitat fragmentation and dispersion of certain wildlife species. A loss of habitat for nesting, foraging, breeding, and cover for those species of wildlife associated with these habitat types would occur during the life of the well, which may include migratory bird species. The proposed project site is not considered prime habitat for whooping crane feeding or roosting and section seven concurrences from the FWS has been received on all the well pad locations where warranted. There will be no effect on any Dakota Skippers and associated habitat.

NO ACTION DIRECT AND INDIRECT EFFECTS

Under the no action alternative the BLM would not authorize any drilling or production activities needed for the proposed oil wells to enter and produce from Federal leases. Consequently, there would not be any additional impacts to the environment. However, there would be continuing impacts from existing disturbances from farming, ongoing reclamation, infrastructure construction and installation, and other related surface disturbing activities in the area.

Economics: Under this alternative, if BLM does not approve the APDs, the wells would not be drilled; thus, portions of the federal lease would not be tested, which would result in oil not being produced from the lease. No production from the Federal lease would result in the loss of addition oil being added to the market place, and loss of royalties to the Federal and State governments. An analysis of the oil production in the area indicates an average oil well would produce approximately 500,000 barrels of oil during the life of a well. By choosing this alternative, we would be denying the opportunity to produce approximately 1,500,000 barrels for the nation (500,000 bbls per well, times three wells). The Federal government would receive 12.5% royalty from the share of oil produced from the federal lease and one half of these royalties would return to the state of North Dakota. Also, it is possible that there would be a loss of subsurface information.

CUMULATIVE EFFECTS

Development in the area was analyzed in this environmental assessment using a one mile radius applied around the proposed well location to determine the potential cumulative impact upon the environment. A study area consisting of a one mile radius around the proposed well location was developed as an aid in conducting cumulative impact analysis. Application of the one mile radius indicates that there are five existing wells present.

The 13 proposed wells and associated infrastructure are located in an area of both perennial and annual vegetation, surrounded by agriculture and grasslands at a much broader scale. The project location and surrounding areas serve as wildlife habitat for a variety of species. The construction of the proposed well pad and access route did impact individual wildlife species but did not add negligible stress to the population level; however, the result of all past actions coupled with this action would increase the extent of stressors on the native fauna within the area.

Cumulative effects from implementing the proposed action are anticipated for air quality for a period of less than five years. If flaring of casing head gas is required to produce this well, there could be long term minor impacts to air for the life of the well (about 20 years). In addition, both short term (<5 years) and long term (>5 years) effects are expected for air, hydrology and wildlife.

Water resources have been impacted by the cumulative effects of activities that occur, including agriculture, mineral exploration and development, and pollution. There would be continuing impacts from existing disturbances from oil wells, ongoing reclamation, pipeline installation, construction and other related surface disturbing activities in the area. As a result of the latter existing activities, erosion, sedimentation, and run-off may persist to some degree. These impacts decrease watershed health and water quality.

Over the last 10 years, advances in multi-stage and multi-zone hydraulic fracturing has allowed development of oil and gas fields that previously were uneconomic. These drilling and fracturing completion techniques have resulted in a very large cumulative increase in oil and gas production from the Bakken and Three Forks formations in the Williston basin of North Dakota, Montana, and Canada.

Both existing and future energy development would continue to have direct and indirect habitat impacts. Existing development will continue to affect vegetation growth and seedling growth as a result of mechanical disturbance and possibly the introduction of invasive species into the area. Prairie habitat is increasingly being lost or fragmented in North Dakota. On a landscape scale these small isolated areas of direct and indirect disturbance will further reduce connectivity of wildlife habitats. To prevent additional or limit habitat fragmentation oil companies have proposed to install multiple wells at a single well pad location, accessed by one road. Commercial success at any new well might result in additional oil/gas exploration proposals. Cumulative impacts that are reasonably foreseen from existing and proposed activities include impacts from habitat fragmentation on a landscape scale and impacts from an improved economy for western North Dakota.

CHAPTER 5
TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Table 2: Tribes, Individuals, Organizations, or Agencies Consulted

Name/Agency	*Authority*	*Result*
The surface owner is listed as private (Fee) surface.	BLM requires that the Operator engage the Surface Owner in negotiations for the purpose of obtaining a surface owner agreement or waiver for access.	The operator has provided certification that they have a surface owner's agreement, which was received by the BLM on 3/24/14 for the Walleye APDs, 5/7/14 for the Blade APDs, 5/19/15, 5/21/15, and 5/26/15 for the Pike wells.

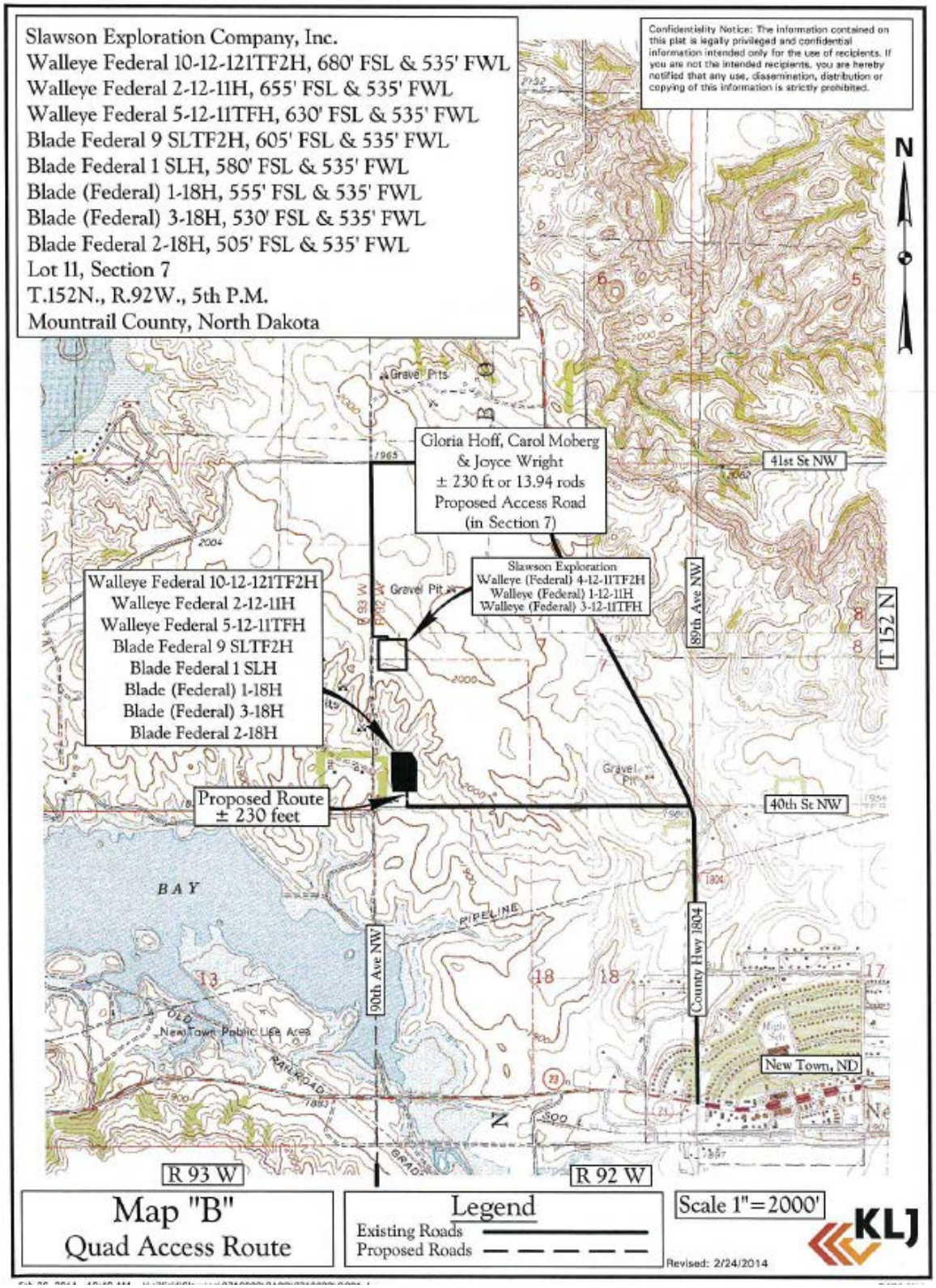
CHAPTER 6
LIST OF PREPARERS

Table 3: List of Preparers			
Name	*Title*	*Responsibilities*	*Initials / Date*
Paul Kelley	NRS	Minerals, Air Quality, Hydrology, NEPA, Project Lead	PWK 1/25/16
Tim Zachmeier	Biologist	Wildlife Resources	TPZ 1/15/2015
Justin Peters	Archaeologist	Cultural Resources	JWP 1/4/2015

Kathy Bockness **1/28/2016**
Environmental Coordinator **Date**

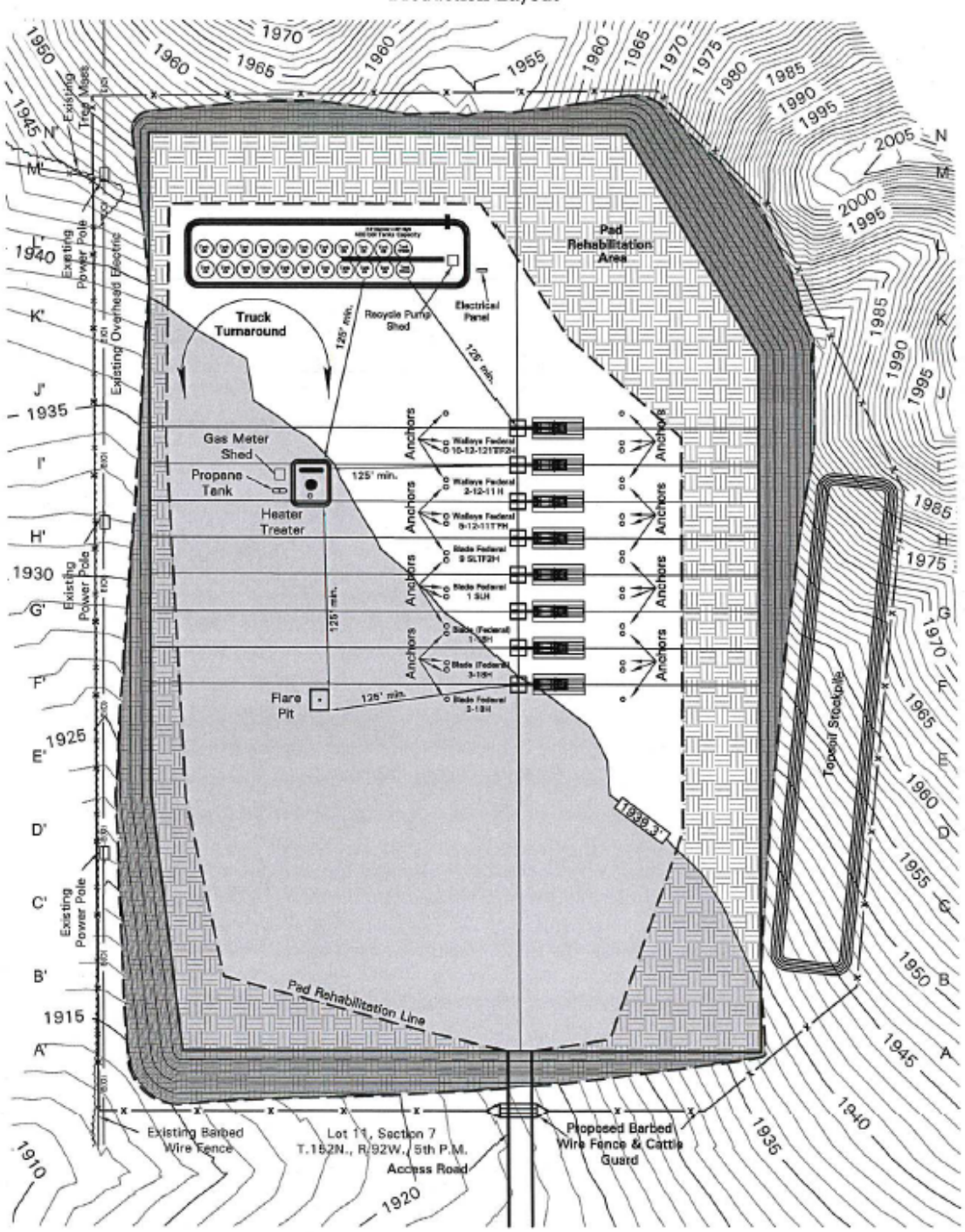
Appendix 1

Pad 1:



Walleye Federal 10-12-121TF2H, Walleye Federal 2-12-11H, Walleye Federal 5-12-11TFH, Blade Federal 9 SLTF2H Blade Federal 1 SLH, Blade (Federal) 1-18H, Blade (Federal) 3-18H & Blade Federal 2-18H

Production Layout



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Drawn By	Surveyed By	Approved By	Scale	Date
M.R./N.C./A.S./Z.B.	K.G./M.K.	Q. Obrigewitsch	1" = 100'	7/23/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-293/320	Prod Layout	2/19/2014	3712880/3714133/3714131/3714132 3714133/3714134/3714154/3714155	15

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Mar 5, 2014 - 2:38 PM - P:\OilSlawson\3714154\CADD\3714154BA502.dwg

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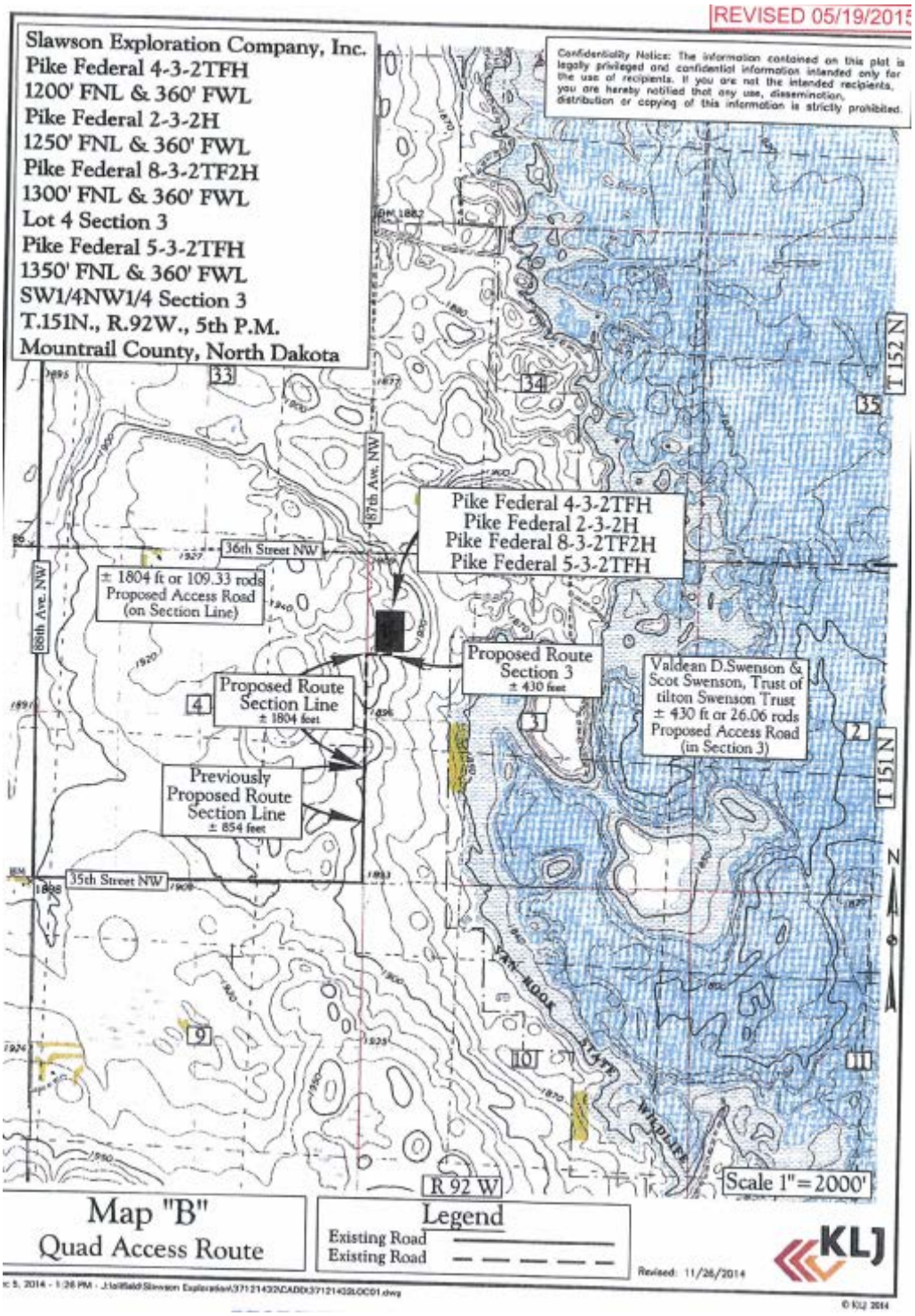
Pad 2:


REVISED 05/19/2015
Slawson Exploration Company, Inc.
Pike Federal 4-3-2TFH
1200' FNL & 360' FWL
Pike Federal 2-3-2H
1250' FNL & 360' FWL
Pike Federal 8-3-2TF2H
1300' FNL & 360' FWL
Lot 4 Section 3
Pike Federal 5-3-2TFH
1350' FNL & 360' FWL
SW1/4NW1/4 Section 3
T.151N., R.92W., 5th P.M.
Mountrail County, North Dakota
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T 152 N
T 151 N
87th Ave. NW
88th Ave. NW
36th Street NW
35th Street NW
Pike Federal 4-3-2TFH
Pike Federal 2-3-2H
Pike Federal 8-3-2TF2H
Pike Federal 5-3-2TFH
± 1804 ft or 109.33 rods
Proposed Access Road
(on Section Line)
Proposed Route
Section Line
± 1804 feet
Proposed Route
Section 3
± 430 feet
Valdean D.Swenson &
Scot Swenson, Trust of
tilton Swenson Trust
± 430 ft or 26.06 rods
Proposed Access Road
(in Section 3)
Previously
Proposed Route
Section Line
± 854 feet
R 92 W
Scale 1"=2000'
Map "B"
Quad Access Route
Legend
Existing Road
Existing Road
Revised: 11/26/2014
KLJ
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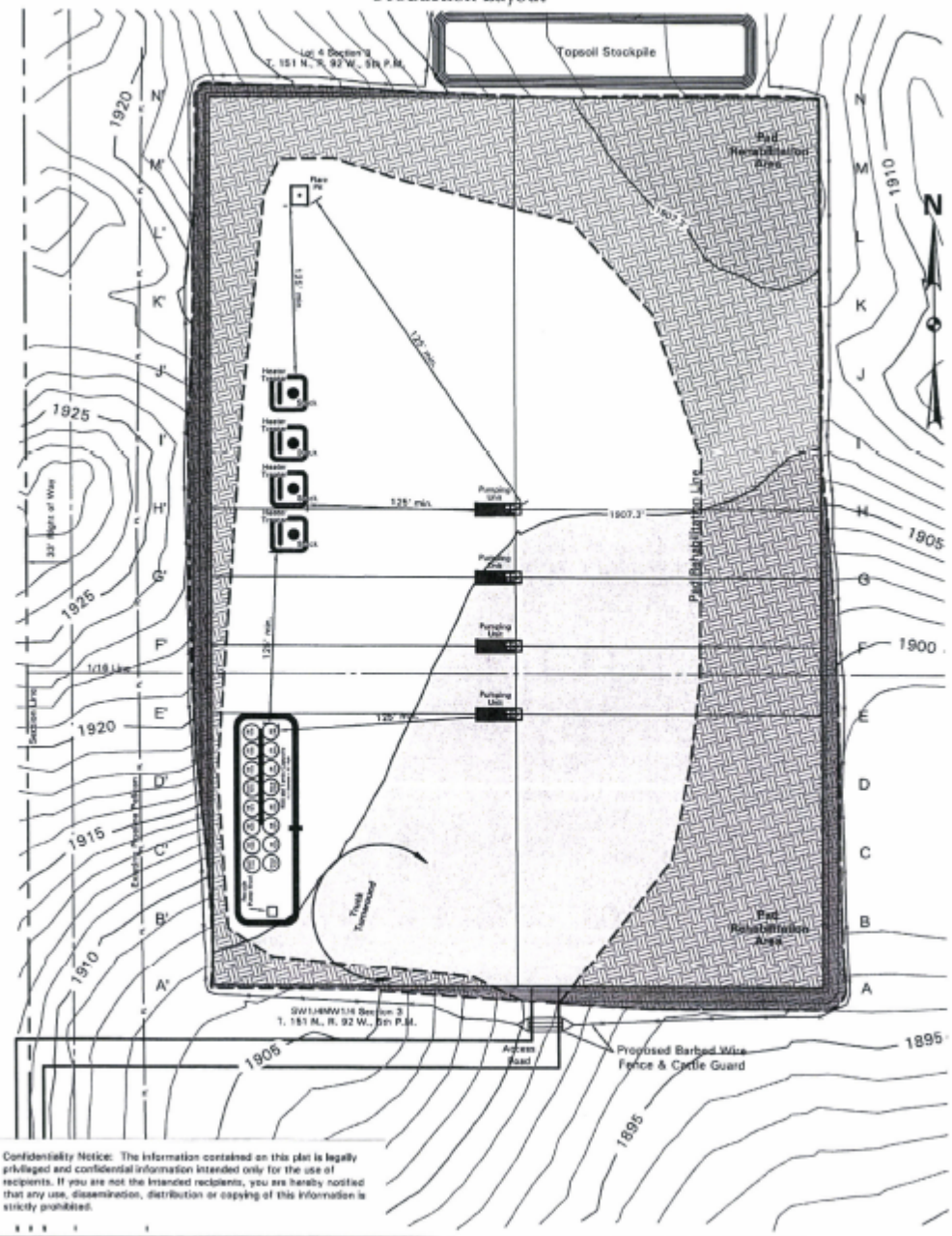
Pike Federal 4-3-2TFH, Pike Federal 2-3-2H, Pike Federal 8-3-2TF2H & Pike Federal 5-3-2TFH

Production Layout



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Drawn By	Surveyed By	Approved By	Scale	Date
J. Bruesch	M. Krebs	Q. Obrigewitsch	1" = 100'	12/10/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-350	Prod Layout	11/26/2014	37141392 &37121433	11

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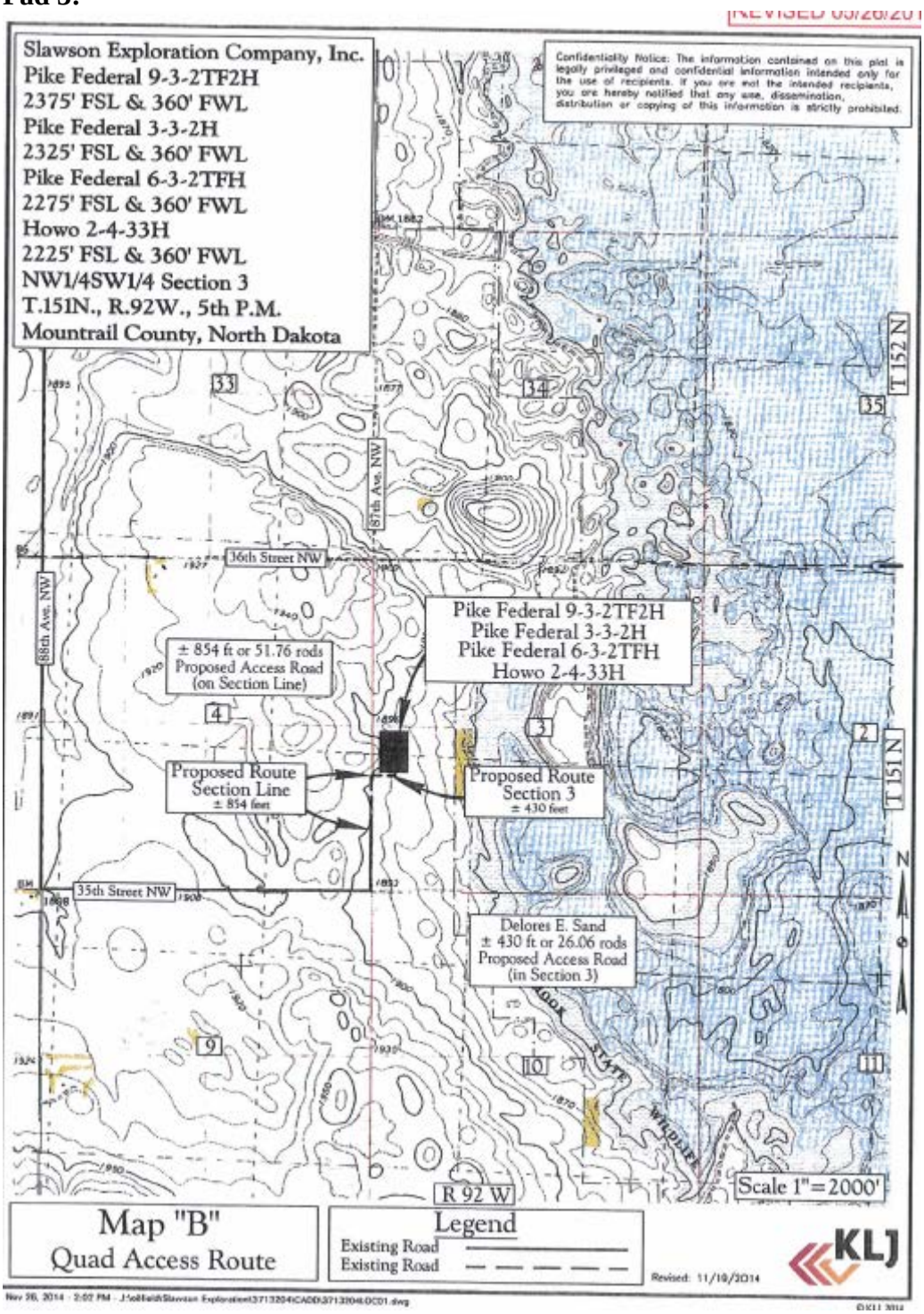
Pad 3:


Slawson Exploration Company, Inc.
Pike Federal 9-3-2TF2H
2375' FSL & 360' FWL
Pike Federal 3-3-2H
2325' FSL & 360' FWL
Pike Federal 6-3-2TFH
2275' FSL & 360' FWL
Howo 2-4-33H
2225' FSL & 360' FWL
NW1/4SW1/4 Section 3
T.151N., R.92W., 5th P.M.
Mountrail County, North Dakota
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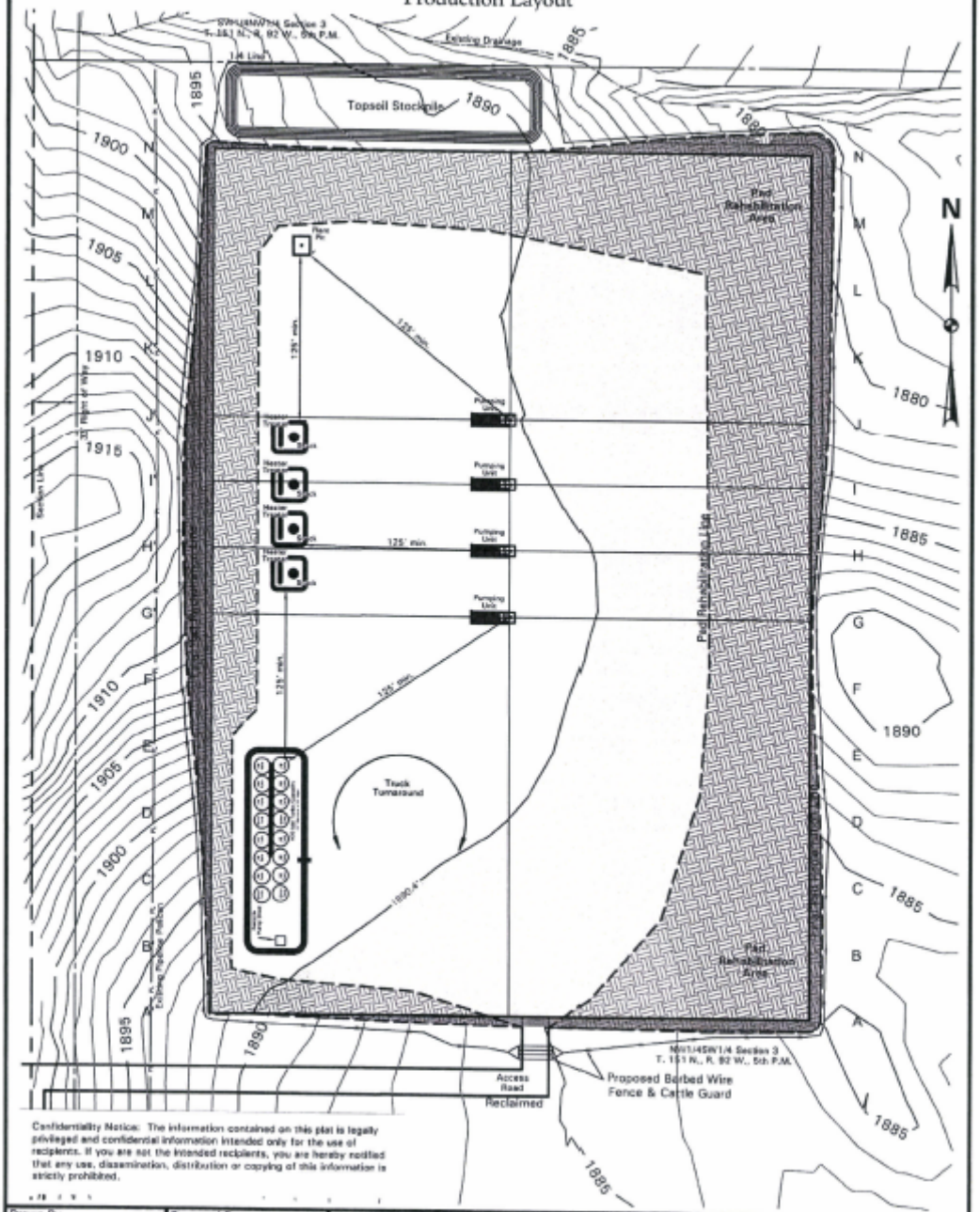
33
34
35
T 152 N
87th Ave. NW
36th Street NW
88th Ave. NW
Pike Federal 9-3-2TF2H
Pike Federal 3-3-2H
Pike Federal 6-3-2TFH
Howo 2-4-33H
± 854 ft or 51.76 rods
Proposed Access Road
(on Section Line)
4
3
2
T 151 N
Proposed Route
Section Line
± 854 feet
Proposed Route
Section 3
± 430 feet
35th Street NW
Delores E. Sand
± 430 ft or 26.06 rods
Proposed Access Road
(in Section 3)
9
10
11
R 92 W
Scale 1"=2000'
Map "B"
Quad Access Route
Legend
Existing Road
Existing Road
Revised: 11/19/2014
KLJ

REVISED 03/20/2013

Pike Federal 9-3-2TF2H, Pike Federal 3-3-2H, Pike Federal 6-3-2TFH & Howo 2-4-33H

Production Layout



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Drawn By	Surveyed By	Approved By	Scale	Date
J. Bruesch	M. Krebs	Q. Obrigewitsch	1" = 100'	2/5/2013
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-350	Prod Layout	11/19/2014	3713204 - 3713205 3713437 & 37141393	11

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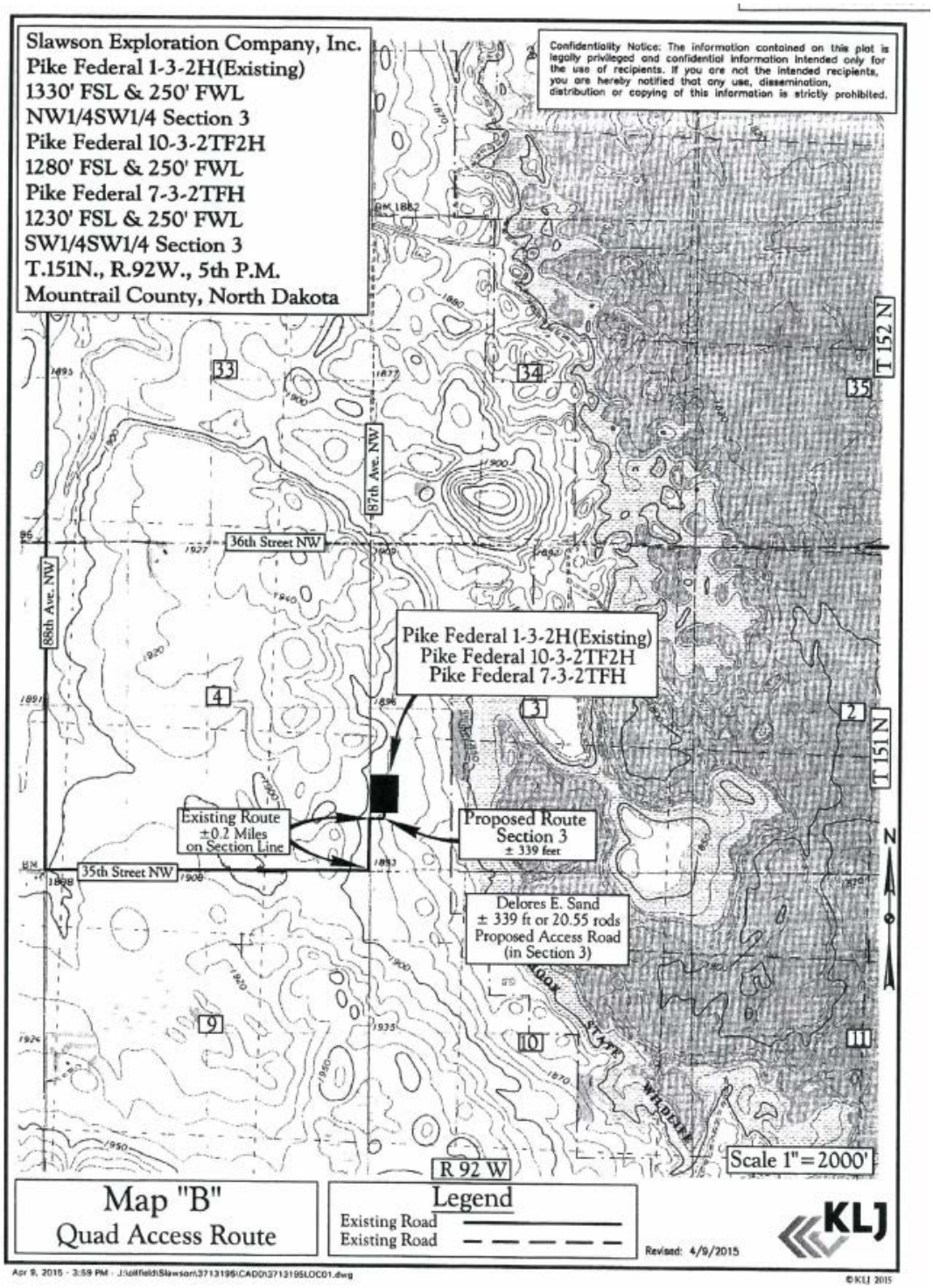
Pad 4:


Slawson Exploration Company, Inc.
Pike Federal 1-3-2H(Existing)
1330' FSL & 250' FWL
NW1/4SW1/4 Section 3
Pike Federal 10-3-2TF2H
1280' FSL & 250' FWL
Pike Federal 7-3-2TFH
1230' FSL & 250' FWL
SW1/4SW1/4 Section 3
T.151N., R.92W., 5th P.M.
Mountrail County, North Dakota
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T 152 N
T 151 N
R 92 W
33
34
35
4
3
2
9
10
11
87th Ave. NW
88th Ave. NW
36th Street NW
35th Street NW
Pike Federal 1-3-2H(Existing)
Pike Federal 10-3-2TF2H
Pike Federal 7-3-2TFH
Existing Route
±0.2 Miles
on Section Line
Proposed Route
Section 3
± 339 feet
Delores E. Sand
± 339 ft or 20.55 rods
Proposed Access Road
(in Section 3)
N
Scale 1"=2000'
Map "B"
Quad Access Route
Legend
Existing Road
Existing Road
Revised: 4/9/2015
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Apr 9, 2015 - 3:59 PM
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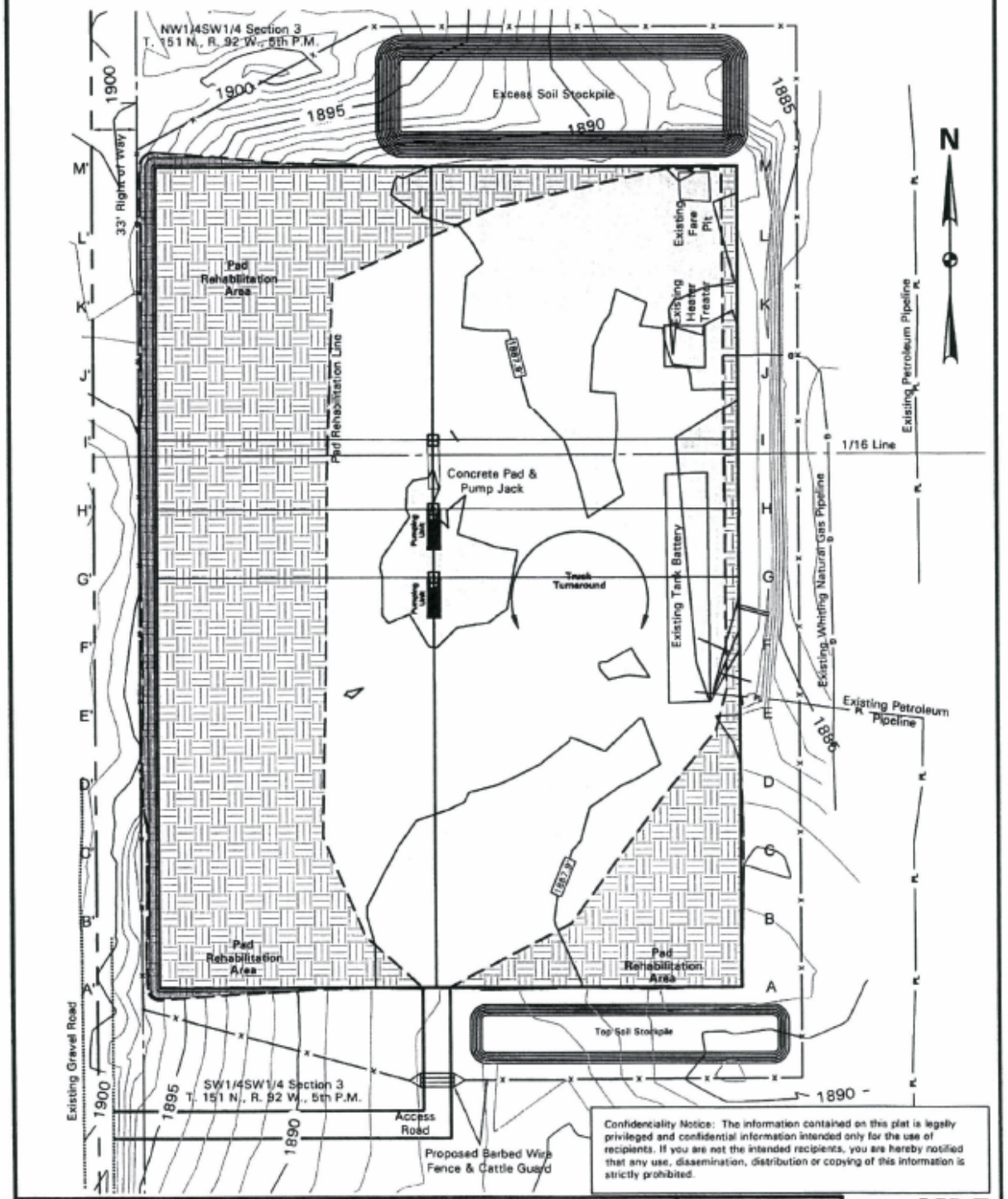
Pike Federal 1-3-2H (Existing), Pike Federal 10-3-2TF2H, & Pike Federal 7-3-2TFH

Production Layout



Drawn By	Surveyed By	Approved By	Scale	Date
J.B./J.K.	M. Krebs	Q. Obrigewitsch	1" = 100'	4/8/2013
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-350	Prod Layout	4/9/2015	3713195 & 37141394	11

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FINDING OF NO SIGNIFICANT IMPACT
Slawson Exploration Company
Proposed Oil Wells, Mountrail County, ND

Environmental Assessment DOI-BLM-MT-C030-2016-052-EA

INTRODUCTION
The 13 oil and gas wells would be drilled from four separate well pads and would be drilled into the following Federal and Indian leases.

Well Identification	Legal Location	Lease Number
Blade Federal 2-18H	T152N R92W Section 7, Lot 11	NDM104606
Blade Federal 1 SLH	Same as above	
Blade Federal 9 SLTF2H	Same as above	
Walleye Federal 5-12-11TFH	T152N R92W Section 7, Lot 11	NDM99119
Walleye Federal 10-12-11TF2H	Same as above	
Pike Federal 4-3-2TFH	T151N R92W Section 3 SWNW	NDM98759
Pike Federal 5-3-2TFH	Same as above	
Pike Federal 8-3-2TF2H	Same as above	
Pike Federal 3-3-2H	T151N R92W Section 3, NWSW	NDM100225
Pike Federal 6-3-2TFH	Same as above	
Pike Federal 9-3-2TF2H	Same as above	
Pike Federal 7-3-2TFH	T151N R92W Section 3 SWSW	NDM100225
Pike Federal 10-3-2TF2H		

The description of the operator proposed action and analysis contained in the EA depicts the proposed wells and the environmental effects available to the BLM at the time of this analysis.

The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions.

PLAN CONFORMANCE AND CONSISTENCY:
The proposed action and alternatives have been reviewed and found to be in conformance with the following BLM Land Use Plan and decisions:

North Dakota Resource Management Plan, approved on April 22, 1988 as amended September 21, 2015. The plan has been reviewed to ensure that the proposed action is in conformance with the land use plan, terms, and conditions, as required by 43 CFR 1610.5. For reference, see page 9 of the Final RMP/EIS, Oil and Gas Lease Stipulations and Leasing Restrictions. See also, page 10 of the RMP/EIS Desk Document, Oil and Gas Plan Decisions.

For the Indian lease, the Proposed Action is in conformance with and this EA incorporates by reference the BIA Regulations at 25 CFR Part 211.4 and 225.4 to the Secretary's regulations.

The BIA, BLM and ONNR, as the Secretary of the interiors representatives, have an obligation to act as a trustee for Indian tribes and allottees for Indian mineral resources.

FINDING OF NO SIGNIFICANT IMPACT:
Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the project is not a major federal action significantly affecting the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity, as defined in 40 CFR 1508.27, and do not exceed those effects described in the North Dakota RMP. Therefore, an environmental impact statement is not needed. This finding is based on the context and intensity of the project as described below.

Context: The project is a site-specific action directly involving a total of approximately 38 acres of disturbance in Mountrail County, North Dakota, which by itself does not have international, national, regional, or state-wide importance.

Intensity: The following discussion is organized around the Ten Significance Criteria described in 40 CFR 1508.27 and incorporated into resources and issues considered (includes supplemental authorities Appendix 1 H-1790-1) and supplemental Instruction Memorandum, Acts, regulations and Executive Orders. The following have been considered in evaluating intensity for this proposal:

1. Impacts may be both beneficial and adverse. The proposed action would impact resources as described in the EA. Mitigation measures to minimize or eliminate adverse impacts were identified in the analysis and will be included as Conditions of Approval with the approved permits. The EA also disclosed beneficial impacts from the proposed project, such as the potential to bring additional oil and gas into the market place and increase revenues to federal and state and local governments, and to obtain scientific data of the local geology, and to increase the knowledge base of the mineral resources potential. None of the environmental effects discussed in detail in the EA exceed those described in the North Dakota RMP.

2. The degree to which the selected alternative will affect public health or safety. No aspect of the proposed action would have an effect on public health and safety. The selected alternative minimizes adverse impacts to public health and safety by project design and additional mitigation measures. No residences are located within a ¼ mile radius of the proposed well. Implementation of H2S Safety Measures will be required if H2S is encountered in excess of 100 ppm in the gas stream, the operator shall immediately ensure control of the well, suspend drilling ahead operations (unless detrimental to well control), and obtain materials and safety equipment to bring the operations into compliance with applicable provisions of Onshore Order No. 6.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas. The location of the proposed well pad and proposed access road has been subject to a cultural resource inventory. The historic and cultural resources of the area have been reviewed by an archeologist and there should be no potential impacts to cultural resources in the design of the proposed action.

There are no effects on park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial. No unique or appreciable scientific controversy has been identified regarding the effects of the Proposed Action. The environmental analysis did not show any highly controversial effects to the quality of the human environment.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks. The project is not unique or unusual because BLM and both the States of Montana and of North Dakota have approved similar actions in the same geographic area. The environmental effects to the human environment are analyzed in the environmental assessment. There are no known predicted effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The actions considered in the preferred alternative were considered by the interdisciplinary team within the context of past, present, and reasonably foreseeable future actions. The action would not establish a precedent, since the project area is in a developed oil and gas field. The proposed action is consistent with actions appropriate for the area as designated by the North Dakota RMP.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. The interdisciplinary team evaluated the possible actions in context of past, present and reasonably foreseeable actions. The analysis did not disclose any significant cumulative impacts. A disclosure of the effects of the project is contained in the environmental assessment.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or other objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. The project should not affect districts, sites, highways, structures, or other objects listed on or eligible for listing in the National Register of Historic Places, nor should it cause loss or destruction of significant scientific, cultural, or historical resources. Identified cultural resources would be avoided by both well and associated infrastructure and would not be impacted by implementing the mitigation measures listed in the conditions of approval for the project.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. There are no threatened or endangered species or habitat in the area of the proposed action. There are no threatened or endangered plant species or habitat in the area.

10. Whether the action threatens a violation of a Federal, State, Local, or Tribal law, regulation or policy imposed for the protection of the environment, where non-Federal requirements are consistent with Federal requirements. The project does not violate any known Federal, State, Local or Tribal law or requirement imposed for the protection of the environment. Furthermore, the project is consistent with applicable BLM plans, policies, and programs.

/s/ Loren Wickstrom 2/3/16
Loren Wickstrom Date
Field Manager

DECISION RECORD

Slawson Exploration Company
Proposed Oil Wells, Mountrail County, ND

Environmental Assessment DOI-BLM-MT-C030-2016-052-EA

Decision:
It is my decision to authorize Slawson's proposed drilling of 13 oil and gas wells from four separate well pads on private (Fee) surface overlying Fee minerals, drilling directionally to Federal and Indian leases described in the Environmental Assessment DOI-BLM-MT-C030-2016-052-EA, and the APDs, with attached Conditions of Approval.

Summary of the Selected Alternative:

This decision includes the following components:

Pad Number	Well Name and Number	Surface Location	Well Pad Dimensions and acreage	Access Road Length & Width
1	Blade Federal 2-18H Blade Federal 1 SLH Blade Federal 9 SLTF2H, Walleye Federal 5-12-11TFH, Walleye Federal 10-12-11TF2H	T152N R92W Section 7, Lot 11 Mountrail County	750' x 450' **8.6** acres	230'x18' (existing)
2	Pike Federal 4-3-2TFH Pike Federal 5-3-2TFH Pike Federal 8-3-2TF2H	T.151N R92W Sec. 3 SWNW Mountrail County	725'x 500' **9.4** acres	2234'x 25' **1.1** acres
3	Pike Federal 3-3-2H Pike Federal 6-3-2TFH Pike Federal 9-3-2TF2H	T151N R92W Section 3, NWSW Mountrail County	725' x 500' **10.3** acres	1404'x25' (existing)
4	Pike Federal 7-3-2TFH Pike Federal 10-3-2TF2H	T151N R92W Section 3 SWSW Mountrail County	525' x 750' **9.1 acres**	339'x25' (existing)

Alternatives: In addition to the selected alternative, the EA considered the "No Action" alternative, which would carry out no management activities at this time.

Rationale for the Decision:
The purpose of the Proposed Action is to allow the opportunity for Slawson, holder of the affected federal oil and gas leases, to explore and develop it. BLM's need to respond to the proposal is expressed in regulations and policy. The Mineral Leasing Act of 1920 (MLA) authorizes and directs leasing of public lands for development of natural gas and other minerals (Sec. 13. 30 U.S.C. § 181 et seq.) The Federal Land and Policy Management Act of 1976 (FLPMA) mandates that BLM develop multiple sustainable uses of public lands in concert with land use planning and environmental protection (Sec. 302. 43 U.S.C. 1732). The BLM decision to be made is whether or not to approve the six APD's to drill 13 wells from four well pads.

The Approval of the Application for Permit to Drills is in conformance with the North Dakota RMP as well as BLM policy and regulations. The above factors and the analysis contained in Environmental Assessment DOI-BLM-MT-C030-2016-052-EA for Slawson's proposed oil and gas wells were carefully considered and evaluated. The APD and all reports were read and the information contained weighed in determining the appropriateness of the decision stated above.

Compliance and Monitoring: BLM will conduct compliance inspections during the different phases of operations. Inspections will be conducted to determine whether or not operations are being conducted in compliance with the approved permit.

Terms/Conditions/Stipulations: The following mitigation measures were analyzed in the EA and are attached below (letter to the operator) and included as Conditions of Approval.

Appeals:
Under BLM regulation this decision is subject to administrative review in accordance with 43 CFR 3165. Any request for administrative review of the decision must include information required under 43 CFR 3165.3(b) (State Director Review), including all supporting documentation. Such a request must be filed in writing with the State Director, Bureau of Land Management, 5001 Southgate Drive, Billings, Montana 59101 within 20 business days of the date the decision is received, or considered to have been received.

Any party who is adversely affected by the State Director's decision may appeal that decision to the Interior Board of Land Appeals, as provided in 43 CFR 3165.4.

/s/ Loren Wickstrom 2/3/16
Loren Wickstrom Date
Field Manager