
APPENDIX E — SUMMARY OF IMPACTS

Table E-1 Summary of Impacts Across Alternatives, Jonah Infill Drilling Project, Sublette County, Wyoming, 2005.¹

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres Disturbance)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)	
AIR QUALITY											
Increased concentrations of criteria pollutants and Hazardous Air Pollutants (HAPs)	No impact above existing levels; no new developments	Potential near-field concentrations would be in compliance with applicable National Ambient Air Quality Standards (NAAQS) and Wyoming Ambient Air Quality Standards (WAAQS); potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	Potential near-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential far-field concentrations would be in compliance with applicable NAAQS and WAAQS; potential PSD increments would be below applicable PSD increments	
Visibility (regional haze) at Class I and Sensitive Class II areas (far-field)	No impact above existing levels; no new developments	Potential project impacts would be greater than 1.0 dv for a maximum of 10 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 11 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 8 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 11 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 11 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 11 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than 1.0 dv for a maximum of 11 days per year; impairment at Bridger Wilderness only	Potential project impacts would be greater than for Alternative F	Potential project impacts would be similar to Alternative G	
Visibility (regional haze) (mid-field communities)	No impact above existing levels; no new developments	Maximum of 23 days per year >1.0 dv	Maximum of 26 days per year >1.0 dv	Maximum of 17 days per year >1.0 dv	Maximum of 24 days per year >1.0 dv	Maximum of 24 days per year >1.0 dv	Maximum of 24 days per year >1.0 dv	Maximum of 24 days per year >1.0 dv	Impacts greater than Alternative A but less than Alternative F	Impacts similar to Alternative G	
Atmospheric/terrestrial deposition	No impact above existing levels; no new developments	Potential project impacts from sulfur deposition would be less than DAT at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at Bridger (i.e., 0.005 kg/ha/yr) at Popo Agie (i.e., 0.005 kg/ha/yr) at Wildcat (i.e., 0.005 kg/ha/yr) at River Roadless Area (i.e., 0.009 kg/ha/yr) and less than DAT at all other analyzed areas	Potential project impacts from sulfur deposition would be less than DAT at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at Bridger (i.e., 0.005 kg/ha/yr) at Popo Agie (i.e., 0.005 kg/ha/yr) at Wildcat (i.e., 0.005 kg/ha/yr) at River Roadless Area (i.e., 0.009 kg/ha/yr) and less than DAT at all other analyzed areas	Potential project impacts from sulfur deposition would be less than DAT at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at Bridger (i.e., 0.005 kg/ha/yr) at Popo Agie (i.e., 0.005 kg/ha/yr) at Wildcat (i.e., 0.005 kg/ha/yr) at River Roadless Area (i.e., 0.009 kg/ha/yr) and less than DAT at all other analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at Bridger (i.e., 0.005 kg/ha/yr) at Popo Agie (i.e., 0.005 kg/ha/yr) at Wildcat (i.e., 0.005 kg/ha/yr) at River Roadless Area (i.e., 0.009 kg/ha/yr) and less than DAT at all other analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas	Potential project impacts from sulfur deposition would be less than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas; potential project impacts from nitrogen deposition would be greater than DAT (i.e., 0.005 kg/ha/yr) at all analyzed areas	Potential project impacts would be similar to Alternative G
Sensitive lake acid neutralization capacity (ANC)	No impact above existing levels; no new developments	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	Potential project impacts would be less than LAC; potential cumulative impacts would be less than LAC	
TOPOGRAPHY											
Landscape feature alteration	Total surface disturbance of 4,209 acres (1,409 acres Life-of-project (LOP), duration of impact would be 63 years; no major landscape feature alterations)	Total surface disturbance of 16,200 acres (4,633 acres LOP) of additional surface disturbance; duration of impacts increased to 76 years	Total surface disturbance of 3,297 acres (1,213 acres LOP) of additional surface disturbance; duration of impacts increased to 105 years	Total surface disturbance of 6,705 acres (1,990 acres LOP) of additional surface disturbance; duration of impacts increased to 68-80 years	Total surface disturbance of 11,581 acres (3,346 acres LOP) of additional surface disturbance; duration of impacts increased to 72-93 years	Total surface disturbance of 6,386 acres (2,188 acres LOP) of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 10,446 acres (2,588 acres LOP) of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 13,989 acres (3,999 acres LOP) of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 7,804 acres (2,295 acres LOP) of additional surface disturbance; duration of impacts increased to 76 years	Total surface disturbance of 7,804 acres (2,295 acres LOP) of additional surface disturbance; duration of impacts increased to 76 years	
MINERAL RESOURCES											
Natural gas	3.37 trillion cubic ft (TCF) of gas recovered	7.95 TCF of gas recovered	6.12 TCF of gas recovered	6.66 TCF of gas recovered	7.55 TCF of gas recovered	6.30 TCF of gas recovered	7.19 TCF of gas recovered	7.88 TCF of gas recovered	7.88 TCF of gas recovered	7.88 TCF of gas recovered	
Oil (condensate)	32.0 million barrels of oil (MBO) recovered	75.5 MBO recovered	58.2 MBO recovered	63.2 MBO recovered	71.8 MBO recovered	59.9 MBO recovered	68.3 MBO recovered	74.8 MBO recovered	74.8 MBO recovered	74.8 MBO recovered	

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,400 Wells/16,200 Acres/Disturbance)	ALTERNATIVE A (3,400 Wells And Pads)	ALTERNATIVE B (3,400 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
Other minerals	Localized LOP loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 72-95 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76-105 years	Increased loss of access above No Action and no violation of contractual agreements; duration of impacts increased to 76 years
GEOLOGIC HAZARDS										
Earthquake damage	No impacts likely; low earthquake potential	Same as No Action	Same as No Action	Same as No Action	Same as No Action	Same as No Action	Same as No Action	Same as No Action	Same as No Action	Same as No Action
Landslides and slumping	No impacts likely; no known landslide areas or underground mines; no new facilities developed	Increased above No Action in some areas; duration of impacts increased to 76 years	Increased above No Action in some areas; duration of impacts increased to 76-105 years	Increased above No Action at project feature sites; duration of impacts increased to 76-105 years	Increased above No Action in some areas; duration of impacts increased to 68-80 years	Increased above No Action in some areas; duration of impacts increased to 72-93 years	Increased above No Action in some areas; duration of impacts increased to 76-105 years	Increased above No Action in some areas; duration of impacts increased to 76-105 years	Increased above No Action in some areas; duration of impacts increased to 76-105 years	Increased above No Action in some areas; duration of impacts increased to 76 years
PALEONTOLOGICAL RESOURCES										
Disturbance/loss of important fossils during construction	Total surface disturbance of 4,209 acres (1,409 acres LOP); duration of impact would be 63 years; no major landscape feature alterations	Total surface disturbance of 16,200 acres (4,631 acres LOP of additional surface disturbance; duration of impacts increased to 76 years	Total surface disturbance of 16,200 acres (4,631 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 3,297 acres (1,213 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 6,705 acres (1,990 acres LOP of additional surface disturbance; duration of impacts increased to 68-80 years	Total surface disturbance of 11,581 acres (3,346 acres LOP of additional surface disturbance; duration of impacts increased to 72-93 years	Total surface disturbance of 6,386 acres (2,188 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 10,446 acres (2,588 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 13,989 acres (3,999 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 7,804 acres (2,295 acres LOP of additional surface disturbance; duration of impacts increased to 76 years
Fossil collection/vandalism for LOP	Total surface disturbance of 4,209 acres (1,409 acres LOP); duration of impact would be 63 years; no major landscape feature alterations	Total surface disturbance of 16,200 acres (4,631 acres LOP of additional surface disturbance; duration of impacts increased to 76 years	Total surface disturbance of 16,200 acres (4,631 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 3,297 acres (1,213 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 6,705 acres (1,990 acres LOP of additional surface disturbance; duration of impacts increased to 68-80 years	Total surface disturbance of 11,581 acres (3,346 acres LOP of additional surface disturbance; duration of impacts increased to 72-93 years	Total surface disturbance of 6,386 acres (2,188 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 10,446 acres (2,588 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 13,989 acres (3,999 acres LOP of additional surface disturbance; duration of impacts increased to 76-105 years	Total surface disturbance of 7,804 acres (2,295 acres LOP of additional surface disturbance; duration of impacts increased to 76 years
SOILS										
Disturbance and erosional loss of soils; soil compaction and mixing of soil horizons; decreased topsoil productivity	Surface disturbance of 4,209 acres is currently authorized; no further surface disturbance would be authorized	Increase of 16,200 acres of new initial surface disturbance above No Action; duration of impacts increased to 76 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 3,297 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 6,705 acres of new initial surface disturbance above No Action; duration of impacts increased to 68-80 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 11,581 acres of new initial surface disturbance above No Action; duration of impacts increased to 72-93 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 6,386 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 10,446 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 13,989 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 7,804 acres of new initial surface disturbance above No Action; duration of impacts increased to 76 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss; potential for other alternatives generally would be lower than as described for other alternatives because of the implementation of management practices being designed to ensure that the project meets field development and production objectives
Contamination due to accidental hazardous material discharge	No new facilities developed; decreased probability of impact	Adherence to Spill Prevention, Control, and Countermeasures Plans (SPCCs), Storm Water Pollution Prevention Plans (SWPPP), and other applicable local, state, and federal rules and regulations; duration of impacts increased to 76 years; prompt soil remediation to minimize potential impact severity	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 3,297 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 6,705 acres of new initial surface disturbance above No Action; duration of impacts increased to 68-80 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 11,581 acres of new initial surface disturbance above No Action; duration of impacts increased to 72-93 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 6,386 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 10,446 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 13,989 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 7,804 acres of new initial surface disturbance above No Action; duration of impacts increased to 76 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss; potential for other alternatives generally would be lower than as described for other alternatives because of the implementation of management practices being designed to ensure that the project meets field development and production objectives

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres/Drainage)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
Reactivation of stabilized dunes	No new surface disturbance of stabilized dunes	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 3,297 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, adverse impacts due to vegetation loss	Increase of 3,297 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, adverse impacts due to vegetation loss	Increase of 6,705 acres of new initial surface disturbance above No Action; duration of impacts increased to 68-80 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 11,581 acres of new initial surface disturbance above No Action; duration of impacts increased to 93 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 6,386 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 10,446 acres of new initial surface disturbance above No Action; duration of impacts increased to 76-105 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 13,989 acres of new initial surface disturbance above No Action; duration of impacts increased to 76 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss	Increase of 1,804 acres of new initial surface disturbance above No Action; duration of impacts increased to 76 years; adherence to Reclamation Plan would mitigate, to some degree, potential severity of adverse impacts due to vegetation loss; potential for impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
SURFACE WATER RESOURCES										
Increased turbidity, siltation, and sedimentation of surface waters due to runoff from disturbed areas	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP 63 years	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years; no natural perennial surface waters in the JDDPA	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 7,506 acres (2,622 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,599 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 5-17 years	Total surface disturbance of 15,790 acres (4,755 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 9-30 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 14,655 acres (3,997 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 18,198 acres (5,408 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 12,013 acres (3,704 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Contamination of surface waters from accidental hazardous material discharge	Total surface disturbance of 4,209 acres (1,409 acres LOP) currently authorized; LOP 63 years; no new facilities developed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations; prompt remediation to minimize potential impact severity	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13 years	Total surface disturbance of 7,506 acres (2,622 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,599 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 5-17 years	Total surface disturbance of 15,790 acres (4,755 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 9-30 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 14,655 acres (3,997 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 18,198 acres (5,408 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 12,013 acres (3,704 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Contamination of surface waters from discharge of unsuitable quality produced water and/or pipeline test water	Total surface disturbance of 4,209 acres (1,409 acres LOP) currently authorized; LOP 63 years; no new pipelines developed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations; prompt remediation to minimize potential impact severity	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13 years	Total surface disturbance of 7,506 acres (2,622 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,599 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 5-17 years	Total surface disturbance of 15,790 acres (4,755 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 9-30 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 14,655 acres (3,997 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 18,198 acres (5,408 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 12,013 acres (3,704 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Alteration of surface drainages for LOP	Total surface disturbance of 4,209 acres (1,409 acres LOP) currently authorized; LOP 63 years; no new drainage crossings; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations; prompt remediation to minimize potential impact severity	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13 years; no long-term modification of drainages	Total surface disturbance of 7,506 acres (2,622 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,599 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 5-17 years	Total surface disturbance of 15,790 acres (4,755 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 9-30 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 14,655 acres (3,997 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 18,198 acres (5,408 acres LOP) vs. 4,209 acres LOP; LOP extended approximately 13-42 years	Total surface disturbance of 12,013 acres (3,704 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres Disturbance)	ALTERNATIVE A (5,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
Flood damage to pipelines and facilities for LOP	No action	Total surface disturbance of 20,409 acres (6,040 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,399 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 5-17 years	Total surface disturbance of 7,506 acres (2,622 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13-42 years	Total surface disturbance of 10,914 acres (3,399 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 5-17 years	Total surface disturbance of 15,790 acres (4,775 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 9-30 years	Total surface disturbance of 10,595 acres (3,597 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13-42 years	Total surface disturbance of 14,655 acres (3,997 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13-42 years	Total surface disturbance of 18,198 acres (5,408 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13-42 years	Total surface disturbance of 12,013 acres (3,704 acres LOP) vs. 4,209 acres (1,409 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Groundwater; full recovery of aquifer within a few years	No new consumption of ground water; full recovery of aquifer within a few years	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impact would be 12 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 9-29 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of ground water at 307.5 to 1,225.0 gpd/acre; 0.5 to 6.0 years to full recovery; duration of impacts would be 12-42 years and until aquifer recovery	Consumption of 1,225.0 acre-ft/year; 6.0 years to full aquifer recovery; duration of impacts would be 12 years and until aquifer recovery
Contamination of ground water from accidental hazardous material discharge and cross contamination in well bores	Adherence to SFCCPs, WOGCC, Bureau of Land Management (BLM) well casing and abandonment procedures, applicable local, state, and federal rules and regulations would minimize potential impact severity; no new development	Increased above No Action because new wells would be drilled; duration of impacts would be 70 years	Increased above No Action because new wells would be drilled; duration of impacts would be 70-105 years	Increased above No Action because new wells would be drilled; duration of impacts would be 70-93 years	Increased above No Action because new wells would be drilled; duration of impacts would be 72-105 years	Increased above No Action because new wells would be drilled; duration of impacts would be 72-93 years	Increased above No Action because new wells would be drilled; duration of impacts would be 76-105 years	Increased above No Action because new wells would be drilled; duration of impacts would be 76-105 years	Increased above No Action because new wells would be drilled; duration of impacts would be 76-105 years	Increased above No Action because new wells would be drilled; duration of impacts would be 76-105 years
NOISE AND ODOR	Noise levels would not be increased above existing authorized actions (i.e., 533 wells on 497 well pads); LOP for authorized actions would be 63 years; although impacts were determined not significant during analysis of subsequent monitoring data indicate that existing noise levels likely are causing significant impacts	Noise levels higher than described for No Action as a result of new well pads, wells, and other project facilities proposed; noise associated with construction and drilling activities would be short-term, but that associated with field traffic and well maintenance would occur for 13 years longer than under No Action; impacts significant	Noise levels similar to those described for Proposed Action as a result of new well pads, wells, and other project facilities proposed; noise to wildlife would increase in areas that would have been avoided under the Proposed Action; noise associated with construction and drilling activities would be short-term, but that associated with field traffic and well maintenance would occur for 13-42 years longer than under No Action; impacts significant	Noise levels similar to those described for Proposed Action as a result of new well pads, wells, and other project facilities proposed; noise associated with construction and drilling activities would be short-term, but that associated with field traffic and well maintenance would occur for 13-42 years longer than under No Action; impacts significant	Noise levels higher than described for No Action but lower than for Proposed Action (60% fewer proposed well pads and wells); noise associated with construction and drilling activities would be short-term, but that associated with field traffic and well maintenance would occur for 5-17 years longer than under No Action; impacts significant	Noise levels higher than described for No Action but lower than for Proposed Action (29% fewer proposed well pads and wells); noise associated with construction and drilling activities would be short-term, but that associated with field traffic and well maintenance would occur for 9-30 years longer than under No Action; impacts significant	Noise levels higher than described for No Action as a result of 3,100 new wells, 266 new pads, and other project facilities proposed; per well and per pad duration of noise associated with construction and drilling activities would increase somewhat as a result of directional drilling, and noise associated with field traffic and well maintenance would occur for 13-42 years longer than under No Action; impacts significant	Noise levels higher than described for No Action as a result of 3,100 new wells, 2,553 new pads, and other project facilities proposed; per well and per pad duration of noise associated with construction and drilling activities would increase slightly as a result of directional drilling, and noise associated with field traffic and well maintenance would occur for 13-42 years longer than under No Action; impacts significant	Noise levels higher than described for No Action as a result of 3,100 new wells, 2,553 new pads, and other project facilities proposed; per well and per pad duration of noise associated with construction and drilling activities would increase slightly as a result of directional drilling, and noise associated with field traffic and well maintenance would occur for 13-42 years longer than under No Action; impacts significant	Noise levels higher than described for No Action as a result of new well pads, wells, and other project facilities generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives; noise associated with field traffic and well maintenance would occur for 13 years longer than under No Action; impacts significant
Presence of offensive odors near wells, facilities, and roads for LOP	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; LOP extended by 13 years as authorized; no additional development	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action	Temporary, localized impacts rapidly dispersed by wind; decreased after development completed; increased impacts in areas that would have been avoided under Proposed Action; LOP extended by 13-42 years over No Action

GROUND WATER RESOURCES

NOISE AND ODOR

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,400 Wells/16,200 Acres/Disturbance)	ALTERNATIVE A (5,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (64 New Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
Wildlife including BWS animal species	Total surface disturbance of 4,189 acres (1,489 acres LOP, 2,700 acres not LOP) and time needed for adequate reclamation; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 20,149 acres (6,040 acres LOP, 14,109 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 13,178 acres (4,753 acres LOP, 8,425 acres not LOP) under No Action; LOP extended approximately 9-30 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 10,153 acres (3,359 acres LOP, 6,794 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 17,198 acres (4,753 acres LOP, 12,445 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 16,635 acres (3,359 acres LOP, 13,276 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 18,178 acres (4,753 acres LOP, 13,425 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 18,178 acres (4,753 acres LOP, 13,425 acres not LOP) under No Action; LOP extended approximately 13-42 years; impacts to wildlife and BWS species and their habitat would be locally significant	Total surface disturbance of 12,013 acres (3,359 acres LOP) vs. 4,200 acres (3,359 acres LOP) under No Action; LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field objectives; impacts to wildlife and BWS species and their habitat would be locally significant	
Increased mortality	Unquantified mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons, as a result of previously authorized actions; no new actions would be authorized under this alternative	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; although disturbance acreage would be the same as under the Proposed Action, impacts would be further increased in some areas that would have been avoided under the Proposed Action (i.e., Sand Draw, raptor nest and sage grouse lek vicinities); LOP extended approximately 13-42 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; level of impacts would be greater than those under the No Action Alternative, but less than those under the Preferred Alternative because no new pads would be constructed; LOP extended approximately 9-30 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; level of impacts would be greater than those under the No Action Alternative, but less than those under the Preferred Alternative because fewer wells would be drilled; LOP extended approximately 5-17 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; level of impacts would be greater than those under the No Action Alternative, and may be similar to those under the Preferred Alternative; LOP extended approximately 13-42 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; level of impacts would be greater than those under the No Action Alternative, but probably more than those under the Preferred Alternative; LOP extended approximately 13-42 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; level of impacts would be greater than those under the No Action Alternative, but probably more than those under the Preferred Alternative; LOP extended approximately 13-42 years over No Action	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; LOP extended approximately 13 years over No Action; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field objectives	Unquantified increase in mortality related to vehicle/animal collisions, construction, and potential stress-related deaths, especially during critical seasons; LOP extended approximately 13 years over No Action; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field objectives	
Displacement; indirect habitat loss; habitat fragmentation	Human activity would displace some species from areas near project features, which, when coupled with direct habitat loss, would further fragment habitats; displacement would cause increased use of other habitats in the region; LOP for currently authorized actions would be 63 years; JIDPA would be within 0.25 mile of project features; no new actions would be authorized under the proposed project	Degree greatly increased under No Action and LOP extended approximately 13-42 years; habitat fragmentation probably most similar to Alternative G; impacts would be further increased in some areas that would have been avoided under the Proposed Action (i.e., Sand Draw, raptor nest and sage grouse lek vicinities)	Degree somewhat increased above No Action and LOP extended approximately 5-17 years; habitat fragmentation would be most similar to No Action Alternative	Degree greatly increased above No Action and LOP extended approximately 9-13 years; habitat fragmentation probably most similar to Alternative G	Degree greatly increased above No Action and LOP extended approximately 13-42 years; 99.98% of the JIDPA would be within 0.25 mile and 97.3% of the JIDPA would be within 0.125 mile of project features	Degree greatly increased above No Action and LOP extended approximately 13-42 years; 99.98% of the JIDPA would be within 0.25 mile and 99.0% of the JIDPA would be within 0.125 mile of project features	Degree greatly increased above No Action and LOP extended approximately 13-42 years; 99.98% of the JIDPA would be within 0.25 mile and 99.2% of the JIDPA would be within 0.125 mile of project features	Degree greatly increased above No Action and LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field objectives; habitat fragmentation would increase to the degree dependent on the local arrangement of project facilities within the field	Degree greatly increased above No Action and LOP extended approximately 13 years; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field objectives; habitat fragmentation would increase to the degree dependent on the local arrangement of project facilities within the field	
Alteration of pronghorn migration routes	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be 63 years for currently authorized actions	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 13-42 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 9-30 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 5-17 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 13-42 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 13-42 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 13-42 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project would be unlikely to block or prohibit migration to and from critical ranges; LOP would be extended approximately 13-42 years from the No Action Alternative	Potential avoidance of the JIDPA by migrating pronghorn; relatively undisturbed areas remain west of the JIDPA; project disturbances unlikely to block or prohibit migration and from critical ranges; LOP would be extended approximately 13 years from the No Action Alternative	

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,400 Wells/16,200 Acres/Disturbance)	ALTERNATIVE A (3,400 Wells And Pads)	ALTERNATIVE B (3,400 Wells And New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances; Mitigation/Monitoring)
Increased mortality for LOP	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no new facility sites	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal
Disturbance of critical habitats for LOP	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present; no new disturbance affected	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present	No adverse effects - no bald eagle nests or roosts; no confirmed black-footed ferret presence; no Ute ladies'-tresses habitat or known occurrence; no surface water withdrawal; no critical habitat present
WILD HORSES										
Loss of habitat; displacement; mortality	No impacts above existing levels; no new surface disturbance	2,415 acres new initial disturbance (715 acres LOP) within Wild Horse Herd Management Area; human presence; potential vehicle/animal collisions; LOP extended 13 years over No Action	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; LOP extended 13-42 years over No Action	867 acres new initial disturbance (305 acres LOP) within Wild Horse Herd Management Area; human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 13-42 years over No Action	1,276 acres new initial disturbance (398 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 5-17 years over No Action	1,861 acres new initial disturbance (561 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 9-30 years over No Action	1,237 acres new initial disturbance (422 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 13-42 years over No Action	1,725 acres new initial disturbance (470 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 13-42 years over No Action	2,150 acres new initial disturbance (639 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 13-42 years over No Action	1,408 new initial disturbance (435 acres LOP) within Wild Horse Herd Management Area; displacement due to human presence; potential vehicle/animal collisions; more areas with human presence; increased traffic; LOP extended 13 years over No Action. Action potential for more areas with human presence; increased traffic; LOP extended 13-42 years over No Action
CULTURAL RESOURCES										
Disturbance/destruction of important sites	Potential impacts assumed to increase with increased surface disturbance; total surface disturbance 4,209 acres; no new surface disturbance	Total surface disturbance of 20,409 acres	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; total surface disturbance 20,409 acres	Total surface disturbance of 7,506 acres; LOP extended 13-42 years over No Action	Total surface disturbance of 10,914 acres	Total surface disturbance of 15,790 acres	Total surface disturbance of 10,595 acres	Total surface disturbance of 14,655 acres	Total surface disturbance reduced to 18,198 acres	Total surface disturbance 12,013 acres; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Artifact collection/site vandalism	Total surface disturbance of 4,209 acres; no new surface disturbance beyond that currently authorized; no increased human presence	Total surface disturbance of 20,409 acres; LOP extended 13 years over No Action	Same as Proposed Action (total surface disturbance of 20,409 acres) but possibly increased in areas that would have been avoided by Proposed Action; LOP extended 13-42 years over No Action	Total surface disturbance of 7,506 acres; LOP extended 13-42 years over No Action	Total surface disturbance of 10,914 acres; LOP extended 5-17 years over No Action	Total surface disturbance of 15,790 acres; LOP extended 9-30 years over No Action	Total surface disturbance of 10,595 acres; LOP extended 13-42 years over No Action	Total surface disturbance of 14,655 acres; LOP extended 13-42 years over No Action	Total surface disturbance of 18,198 acres; LOP extended 13-42 years over No Action	Total surface disturbance of 12,013 acres; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives
Disturbance of Native American religious or culturally significant sites	Avoidance of known sites and continued consultation would minimize potential impact severity; total surface disturbance of 20,409 acres	Avoidance of known sites and continued consultation would minimize potential impact severity; total surface disturbance of 20,409 acres	Same as Proposed Action (total surface disturbance of 20,409 acres) but possibly increased in areas that would have been avoided by Proposed Action	Total surface disturbance of 7,506 acres	Total surface disturbance of 10,914 acres	Total surface disturbance of 15,790 acres	Total surface disturbance of 10,595 acres	Total surface disturbance of 14,655 acres	Total surface disturbance of reduced to 18,198 acres	Total surface disturbance of 12,013 acres; potential for impacts generally would be lower than as described for other action alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres-Disturbance)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
SOCIOECONOMICS										
Local population increase	Up to 13,947 new secondary direct labor and 63,959 new production LOP; impact anticipated beyond existing levels; some job loss may occur as wells become less productive and abandonment begins to occur	Up to 9,899 new worker-direct labor and 52,939 new secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13 years over No Action	Up to 9,899 new worker-direct labor and 60,625 new secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13-42 years over No Action	Up to 9,899 new worker-direct labor and 60,625 new secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13-42 years over No Action	Up to 3,392 new worker-direct labor and 21,617 new AFEs secondary labor for development; 5,081 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 5-17 years over No Action	Up to 7,089 new worker-direct labor and 38,356 new AFEs secondary labor for development; 5,081 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 9-30 years over No Action	Up to 9,899 new worker-direct labor and 59,880 new AFEs secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13-42 years over No Action	Up to 9,899 new worker-direct labor and 57,623 new AFEs secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13-42 years over No Action	Up to 9,899 new worker-direct labor and 53,551 new AFEs secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13 years over No Action	Up to 9,899 new worker years direct labor and 53,740-54,193 new AFEs secondary labor for development; 6,964 new AFEs secondary labor for LOP from production; no impact to population anticipated due to Operator-committed recruitment from local population; some unquantifiable in-migration may occur from active job-seekers; LOP extended 13 years over No Action
Increased demand for housing	No further impact anticipated beyond existing levels	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated
Increased demand for services	No further impact anticipated beyond existing levels	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated	No significant increase in population anticipated
Change of community character	No impact anticipated beyond existing change in social values and beliefs	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative	Impacts greater than those described under the No Action Alternative
Increased tax revenues and royalties	Continued tax revenue and royalty streams for 63-year LOP; tax revenues and royalty streams would decline as wells become less productive; potential tax revenues and royalties would remain unrealized due to lack of new development and failure to recover mineral resources	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative	Tax revenues and royalties would be expected to increase in proportion to number of new wells developed and increased production from mineral resources; impacts greater than those described under the No Action Alternative
Loss of revenues from livestock grazing due to loss of animal unit months (AUMs)	\$44,041 annual loss over 63-year LOP if all AUMs lost	Loss of \$115 per AUM; possible loss of \$202,497 annually over LOP if all AUMs lost; LOP extended 13 years over No Action	Loss of \$115 per AUM; possible loss of \$109,241 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action	Loss of \$115 per AUM; possible loss of \$75,778 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action	Loss of \$115 per AUM; possible loss of \$109,241 annually over LOP if all AUMs lost; LOP extended 5-17 years over No Action	Loss of \$115 per AUM; possible loss of \$157,076 annually over LOP if all AUMs lost; LOP extended 9-30 years over No Action	Loss of \$115 per AUM; possible loss of \$111,310 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action	Loss of \$115 per AUM; possible loss of \$171,335 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action	Loss of \$115 per AUM; possible loss of \$171,335 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action	Loss of \$115 per AUM; possible loss of \$171,335 annually over LOP if all AUMs lost; LOP extended 13-42 years over No Action
Loss of hunting revenues	No impact anticipated beyond existing levels; LOP would be 63 years	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13-42 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13-42 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 5-17 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 9-30 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13-42 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13-42 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13-42 years over No Action; impacts greater than those described under the No Action Alternative	Loss of \$963 per hunter day; possible loss of \$42,140 annually over LOP if all hunter days lost; LOP extended 13 years over No Action; impacts greater than those described under the No Action Alternative

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres/Disturbance)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,585 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances; Mitigation/Monitoring)	
Loss of recreation revenues	No impact anticipated beyond existing levels; LOP would be 63 years	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 9-30 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13-42 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13 years over No Action	Loss of \$29.62 per RVD; possible loss of \$100,590 annually over LOP if all RVDs are lost; LOP extended 13 years over No Action	
Stimulation of local economies	No new development; up to \$311 million revenues and \$12 million secondary labor earnings from production annually for 63-year LOP	Up to \$547 million direct economic impact and up to \$133 million secondary labor earnings annually from development; up to \$577 million revenues and up to \$22 million in secondary labor earnings from production annually for LOP; LOP extended 13-42 years over No Action	Up to \$560 million direct economic impact and up to \$138 million secondary labor earnings annually from development; up to \$547 million revenues and up to \$21 million in secondary labor earnings from production annually for LOP; LOP extended 5-17 years over No Action	Up to \$607 million direct economic impact and up to \$155 million secondary labor earnings annually from development; up to \$444 million revenues and up to \$17 million in secondary labor earnings from production annually for LOP; LOP extended 9-13 years over No Action	Up to \$556 million direct economic impact and up to \$136 million secondary labor earnings annually from development; up to \$570 million revenues and up to \$22 million in secondary labor earnings from production annually for LOP; LOP extended 9-30 years over No Action	Up to \$602 million direct economic impact and up to \$153 million secondary labor earnings annually from development; up to \$506 million revenues and up to \$19 million in secondary labor earnings from production annually for LOP; LOP extended 13-42 years over No Action	Up to \$587 million direct economic impact and up to \$148 million secondary labor earnings annually from development; up to \$506 million revenues and up to \$19 million in secondary labor earnings from production annually for LOP; LOP extended 13-42 years over No Action	Up to \$588 million direct economic impact and up to \$137 million secondary labor earnings annually from development; up to \$555 million revenues from production annually for LOP; LOP extended 13 years over No Action	Up to \$558 million direct economic impact and up to \$137 million secondary labor earnings annually from development; up to \$555 million revenues from production annually for LOP; LOP extended 13 years over No Action	Up to \$588 million direct economic impact and up to \$137 million secondary labor earnings annually from development; up to \$555 million revenues from production annually for LOP; LOP extended 13 years over No Action	Up to \$588 million direct economic impact and up to \$137 million secondary labor earnings annually from development; up to \$555 million revenues from production annually for LOP; LOP extended 13 years over No Action
Environmental justice for LOP	No impact anticipated; no minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area	No minority communities in study area; no low-income populations in study area
LAND USE/LIVESTOCK GRAZING											
Loss of animal unit months (AUMs) for livestock, wild horses, and wildlife for LOP	Maximum loss of 342 AUMs and 116 AUMs for the 63-year LOP; no new AUM losses	Maximum short-term loss of 1,720 AUMs and 509 AUMs lost for the LOP; approximately 1,240 AUMs would be reclaimed during LOP to provide forage within 10-12 years of disturbance; increased loss of 1,378 AUMs short-term and 393 AUMs for the LOP above No Action; LOP extended 13 years over No Action	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; LOP extended 13-42 years over No Action	Maximum short-term loss of 618 AUMs and 218 AUMs lost for the LOP; increased loss of 276 AUMs (maximum) and 102 AUMs for the LOP above No Action; LOP extended 13-42 years over No Action	Maximum short-term loss of 909 AUMs and 284 AUMs lost for the LOP; increased loss of 567 AUMs (maximum) and 168 AUMs for the LOP above No Action; LOP extended 5-17 years over No Action	Maximum short-term loss of 1,325 AUMs and 400 AUMs lost for the LOP; increased loss of 983 AUMs (maximum) and 284 AUMs for the LOP above No Action; LOP extended 9-30 years over No Action	Maximum short-term loss of 881 AUMs and 300 AUMs lost for the LOP; increased loss of 539 AUMs (maximum) and 184 AUMs for the LOP above No Action; LOP extended 13-42 years over No Action	Maximum short-term loss of 1,227 AUMs and 336 AUMs lost for the LOP; increased loss of 885 AUMs (maximum) and 219 AUMs for the LOP above No Action; LOP extended 13-42 years over No Action	Maximum short-term loss of 1,531 AUMs and 455 AUMs lost for the LOP; increased loss of 1,189 AUMs (maximum) and 339 AUMs for the LOP above No Action; LOP extended 13-42 years over No Action	Maximum short-term loss of 1,002 AUMs and 310 AUMs lost for the LOP; increased loss of 660 AUMs (maximum) and 194 AUMs for the LOP above No Action; potential impacts generally would be lower than as described for other alternatives because of the implementation of management requirements and monitoring designed to ensure that the project meets field development and production objectives; LOP extended 13 years over No Action	
LAND USE/RECREATION											
Reduced recreational use of JIDPA and adjacent areas for LOP	No additional impacts to recreational resources beyond existing levels; LOP would be 63 years	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13 years over No Action	Same as Proposed Action but possibly increased in areas that would have been avoided by Proposed Action; LOP extended 13-42 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13-42 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 5-17 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 9-30 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13-42 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13-42 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13 years over No Action	Displacement of existing dispersed recreation (e.g., hunting, wildlife viewing, photography) due to the increased level of development (e.g., facilities, noise, traffic, dust, human presence) and the perceived reduction in the quality of the recreational experience; LOP extended 13 years over No Action	

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres-Disturbance)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
<p>LAND USE/TRANSPORTATION</p> <p>Increased road miles and road density in JIDPA for 63-year LOP</p>	<p>An additional 199 miles of currently authorized by BLM collector roads</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>No new roads; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>An additional 188 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 5-17 years over No Action</p>	<p>An additional 330 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 9-30 years over No Action</p>	<p>An additional 40 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>An additional 154 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>An additional 453 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>An additional 664 miles of resource roads, 8 miles of collector roads, and 12 miles of BLM Road improvement above No Action; impact severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13 years over No Action</p>
	<p>Increased traffic for the 63-year LOP</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Traffic increase may cause congestion, road damage, and increased collision potential; new and existing roads would be built and maintained to facilitate safety and accommodate increased traffic; adherence to the Transportation Plan would to some extent mitigate impact severity; LOP extended 13 years over No Action</p>	<p>Traffic increase may cause congestion, road damage, and increased collision potential; new and existing roads would be built and maintained to facilitate safety and accommodate increased traffic; adherence to the Transportation Plan would to some extent mitigate impact severity; LOP extended 13-42 years over No Action</p>	<p>Traffic increase may cause congestion, road damage, and increased collision potential; new and existing roads would be built and maintained to facilitate safety and accommodate increased traffic; adherence to the Transportation Plan would to some extent mitigate impact severity; LOP extended 13-42 years over No Action</p>	<p>Traffic increase may cause congestion, road damage, and increased collision potential; new and existing roads would be built and maintained to facilitate safety and accommodate increased traffic; adherence to the Transportation Plan would to some extent mitigate impact severity; LOP extended 13-42 years over No Action</p>	<p>Traffic increase may cause congestion, road damage, and increased collision potential; new and existing roads would be built and maintained to facilitate safety and accommodate increased traffic; adherence to the Transportation Plan would to some extent mitigate impact severity; LOP extended 13-42 years over No Action</p>
<p>VISUAL RESOURCES</p> <p>Modification to basic visual elements and changes in visual character of JIDPA for the LOP and unit areas reclaimed</p>	<p>No additional impacts to visual resources beyond current authorized actions for the 43-year LOP</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Same as Proposed Action but possibly increased in areas where road density has been reduced by Proposed Action; LOP severity would be somewhat mitigated with adherence to the Transportation Plan; LOP extended 13-42 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 13 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 9-30 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 13-42 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 13-42 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 13-42 years over No Action</p>	<p>Continued long-term modification of visual characteristics; current visual resource (VRM) Class IV designation of JIDPA would be maintained; LOP extended 13 years over No Action</p>
	<p>Light pollution effects of JIDPA beyond current levels; duration of impacts would be 63 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 68-80 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 72-93 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76-105 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76-105 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76-105 years</p>	<p>Light impacts would be increased due to additional development; duration of impacts would be 76-105 years</p>

Table E-1 (continued)

IMPACT BY ENVIRONMENTAL RESOURCE	NO ACTION	PROPOSED ACTION (3,100 Wells/16,200 Acres/Disturbance)	ALTERNATIVE A (3,100 Wells And Pads)	ALTERNATIVE B (3,100 Wells And No New Pads)	ALTERNATIVE C (1,250 Wells And Pads)	ALTERNATIVE D (2,220 Wells And Pads)	ALTERNATIVE E ² (266 New Pads; 16 Total Pads/Section)	ALTERNATIVE F ² (1,028 New Pads; 32 Total Pads/Section)	ALTERNATIVE G ² (2,553 New Pads; 64 Total Pads/Section)	PREFERRED ALTERNATIVE ² (Specific Maximum Disturbance Allowances, Mitigation/Monitoring)
HAZARDOUS MATERIALS Soil, surface water, and ground water contamination and water exposure from pipeline ruptures, and/or exposure from accidental spills, pipeline ruptures, etc., for the LOP	No additional opportunities for material spills, pipeline ruptures, and/or exposure to hazardous materials from pipeline present approved levels; LOP would be 63 years	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13 years over No Action	Same as Proposed Action but possibly increased in areas where there have been extended by Proposed Action; LOP extended 13-42 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13-42 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 5-17 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 9-30 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13-42 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13-42 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13 years over No Action	Increased above No Action due to more materials, produced, used, stored, and disposed; adherence to SPCCPs, SWPPPs, and other applicable local, state, and federal rules and regulations and appropriate monitoring, containment, and disposal of hazardous materials would limit potential impact severity; LOP extended 13 years over No Action

¹ Impacts assume successful implementation of the variously proposed mitigation/monitoring/development requirements (see Appendices A and B).

² Assumes 3,100 additional wells.

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