

APPLICATION OF BIOLOGICAL INDICATORS FOR IDENTIFYING THE AGROECOLOGICAL STATE OF RECLAMATED SOILS

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Studies were conducted to identify agro-ecological condition of the soil in the former oil well drilling site, remediated before 1994. Parameters of microbiological indicators of background soil and soil at various points near the well drill were determined. Comparative assessment of the state of the soil microflora at selected points in terms of size, structure and function of microbial cenoses was conducted. It was found that the most of studied soil parameters at various observation points deviate from the background soil in an unfavorable direction. In addition the reducing the biological activity was observed. The possibility and practicability of using the most informative set of biological indicators to assess the status of remediated soil and effectiveness of remediation of soils contaminated with components of drilling mud during crude oil and gas production has been shown.

Keywords: biological indicators, soil microbial cenosis, reclaimed soil, soil enzymatic activity, soil phytotoxic activity.

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ПРИМЕНЕНИЕ БИОЛОГИЧЕСКИХ ПОКАЗАТЕЛЕЙ ДЛЯ ОПРЕДЕЛЕНИЯ АГРОЭКОЛОГИЧЕСКОГО СОСТОЯНИЯ РЕКУЛЬТИВИРОВАННЫХ ПОЧВ

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Проведены исследования по определению агроэкологического состояния почвы на территории бывшей буровой площадки нефтедобывающей скважины. Почва в пределах площадки рекультивирована до 1994 г.

Определены параметры микробиологических показателей фоновой почвы и почвы в разных точках вблизи скважины. Дана сравнительная оценка состояния микрофлоры почвы в выбранных точках по показателям численности, структуры и функционирования микробных ценозов. Установлено отклонение большинства исследуемых показателей почвы в различных точках наблюдения от фоновой почвы в неблагоприятную сторону, снижение биологической активности. Показана возможность использования комплекса наиболее информативных биологических показателей для оценки состояния рекультивированных почв и эффективности рекультивации почв, загрязненных при добыче нефти.

Ключевые слова: биологические показатели, микробный ценоз почвы, рекультивированные почвы, ферментативная активность почвы, фитотоксическая активность почвы.